The Impact of Internal Corporate Governance Mechanisms on the Performance of Firms: Evidence From the UK and Germany

Thesis

The impact of internal corporate governance mechanisms on the performance of firms: evidence from the UK and Germany

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Abstract

This thesis examines the effectiveness of corporate governance regulations in the UK's and Germany's corporate governance systems. The UK and Germany are chosen for this study because they exhibit different board structures, legal systems and capital markets. The differences and similarities across these two corporate governance systems provide an opportunity to explore the effectiveness of firm-level and country-level corporate governance regulations in different corporate governance systems. Using a sample of 120 firms from the UK and Germany for the period 2007–2011, this thesis investigates: (a) the relationship between internal corporate governance mechanisms and the performance of firms; and (b) the types and quality of explanations reported for non-compliance with the corporate governance codes. Unlike previous studies, this study focuses on compliance and the explanations reported for non-compliance with a corporate governance code. The concepts of 'comply' and 'explain' are claimed to be the two most important pillars of an effective corporate governance system. Using an index-based approach, this thesis develops a 'comply or explain' index for each firm in the sample. The index captures the level of compliance as well as the quality of explanations reported for non-compliance with the corporate governance codes. Furthermore, a generalised method of moments (GMM) model is used to investigate the governance-performance relationship and a mechanistic (quantitative) content analysis method is applied to examine the quality of explanations reported in response to non-compliance with the corporate governance codes.

The results from the univariate analysis reveal that the UK and Germany exhibit significant differences in terms of compliance with the corporate governance codes, board structures and ownership structures of firms. The results for governance-performance relationship show that the 'comply or explain' index is significantly and positively associated with the operating performance of German firms, while in the UK, the 'comply or explain' index has a positive impact on the market valuation (Tobin's Q) of UK firms. However, the impact of the 'comply or explain' index is statistically not significant for the accounting-based measure of firm performance in the UK, and for the market-based measure of firm performance in Germany. The results provide some evidence that the quality of corporate governance (measured by the 'comply or explain' index) has positive implications for firms' performance in both countries. The findings are different for the accounting-based and market-based measures of firm performance, and the mixed empirical evidence is supported by the different theories of corporate governance. For instance, board structure (the percentage of non-executive directors) is positively associated with the operating performance (ROA) of UK firms and with the market valuation (Tobin's Q) of German firms. However, board structure is negatively associated with the market-based measure of firm performance in the UK. The positive and negative impact of board structure on different measures of firm performance can be explained through the lens of agency theory and stewardship theory, respectively. The results for blockholders' ownership show that non-institutional blockholders have a positive impact on the performance (ROA and Tobin's Q) of German firms. Institutional blockholders' ownership is positively associated with the operating performance of firms in the UK. However, the impact of institutional blockholders' ownership is negative for the market-based measure of firm performance in both countries, which raises concerns about the monitoring role of institutional shareholders in both countries.

The results from the content analysis of 600 corporate governance reports show that non-compliant firms across the UK and Germany do exploit the 'explain' option and flexibility granted by the 'comply or explain' principle. The explanations reported in response to non-compliance are largely uninformative and the content of such explanations mostly remained similar over the time and across the firms.

Overall, the mixed empirical evidence on the relationship between governance and firm performance indicate that the governance-performance relationship cannot be examined through the lens of a single and universal theory of corporate governance. A multiple theoretical perspective could be very helpful in examining the governance-performance relationship in different corporate governance systems. In fact, investigating the complex governance-performance relationship using multiple theories and multiple methods may take us closer to developing a more comprehensive theory of corporate governance.

Dedication

Dedicated to my parents; my wife and two children – Taskeen and Tamanna; my brothers and sisters; and my teacher Professor Muhammad Ilyas Farooqi, who financially supported my education in B.Com and MBA studies. Without his support, I might not have been able to get a higher education degree.

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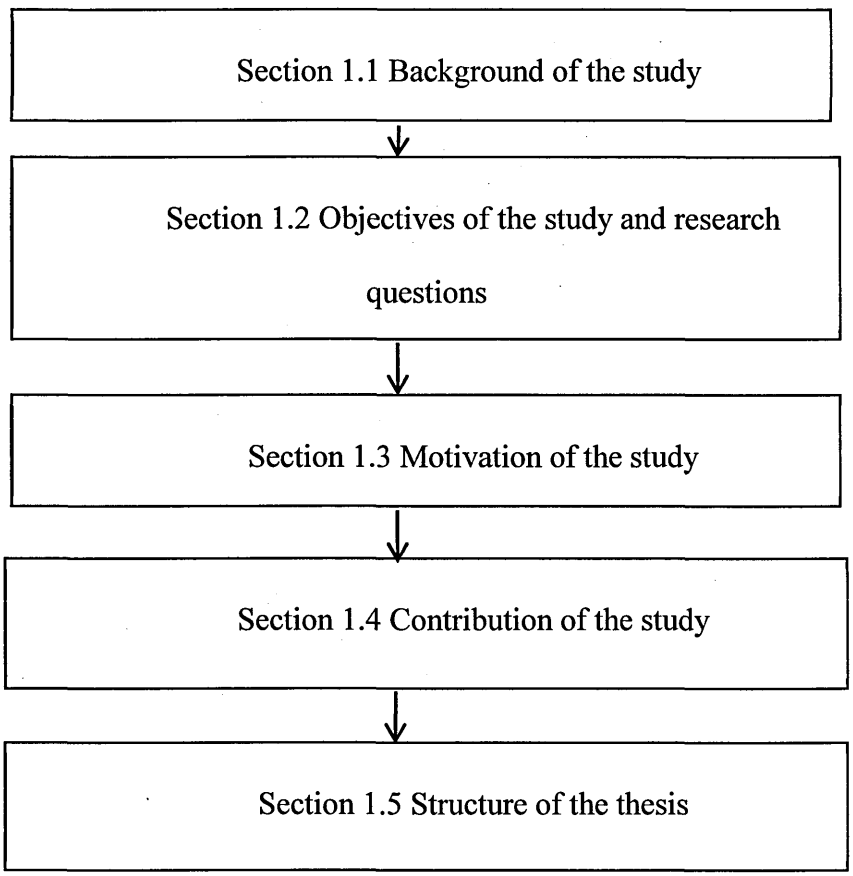
Chapter 1. Introduction



1.1 Background of the study

The birth of a corporate form of business organisation resulted in a separation of ownership and control (Berle and Means, 1932), with managers having sufficient control in running the day to day affairs of an organisation. It is unlikely that managers would always act in the best interests of the owners. This phenomenon was first pointed out by Adam Smith in 1776 and was formally presented in the form of agency theory by Jensen and Meckling (1976). According to Jensen and Meckling (1976), opportunistic behaviour by managers would cause a conflict of interests between owners and managers, thereby affecting a firm's financial performance negatively. Recent research by Cheffins (2012) also shows that corporate governance issues have existed for many centuries and are likely to continue in the near future as long as business activities are undertaken by the corporate sector. This could mean that the society is likely to face more corporate scandals in the future.

In the past 20 years, we have witnessed the failures of large corporations around the world. The fall of Enron and WorldCom in the USA, and the collapse of Polly Peck and the Maxwell Corporation in the UK are the leading examples of failures in corporate governance and internal control systems of large organisations. The recent 2007 financial crisis has further highlighted the importance of firm-level and country-level corporate governance arrangements. Each corporate scandal/failure leaves some unanswered questions in the mind of a common investor, such as: What have the directors been doing? Where were the regulators? Why could the corporate governance codes/regulations not prevent the situation? Where were the non-executive directors, who were charged with

effective monitoring on behalf of shareholders? Why did the internal control systems and the risk management systems fail? Why did the internal corporate governance mechanisms fail to improve a firm's financial performance? How could corporate governance disclosure practices be improved to minimise the information gap between owners and managers (see Tricker, 2012, p. 19)?

In response to corporate scandals, corporate governance reforms emerged in the shape of corporate governance codes throughout the world. In many countries, such as in the UK, Australia and the majority of EU countries, these codes are largely based on the principle of 'comply or explain', where listed companies are required to comply fully or otherwise explain the reasons for non-compliance with corporate governance codes. The 'comply or explain' principle rejects the 'one-size-fits-all' approach as implemented in the USA, where each listed company is required to comply fully with the provisions of the *Sarbanes-Oxley Act* of 2002. In the UK, the *Cadbury Report* (1992) was the first corporate governance code which was based on the principle of 'comply or explain'. The *Cadbury Report* (1992) emphasised the appointment of non-executive directors to oversee a company's management. The *Report* also focused on greater transparency and accountability in the UK listed companies by introducing three board committees, such as the nomination, remuneration and audit committee. The idea of regulating companies' through a corporate governance code was to protect the interests of shareholders by introducing various mechanisms to reward and monitor the management. The corporate governance code in the UK has evolved over time and the Financial Reporting Council in

the UK has regularly engaged in consultations with various stakeholders (companies, auditors and investors), aiming to improve corporate governance practices in the UK.

With the introduction of corporate governance codes, accounting and finance researchers have examined the relationship between internal corporate governance mechanisms and the performance of firms. Internal governance mechanisms (also known as firm-level governance mechanisms) are those mechanisms which operate within the firm. Some commonly used internal corporate governance mechanisms are the board of directors, managerial incentives, capital structure,[1] company bye-laws and charter provisions[2] and internal control systems. Many corporate governance studies have focused on the relationship between compliance with the corporate governance codes and its impact on the performance of firms in different countries (e.g., Drobetz et al., 2004; Bauer et al., 2004; Beiner et al., 2006; Bauwhede, 2009).

In the UK, after the publication of the *Cadbury Report* (1992), researchers have examined extensively the relationship between internal corporate governance mechanisms and firm performance. For instance, Dahya et al. (2002) examined the relationship between Chief Executive Officers' (hereafter CEOs) turnover and firm performance for a sample of 460 companies listed on the London Stock Exchange between 1989 and 1996. Dahya et al. (2002) argued that CEOs in poorly performing firms would be likely to lose their jobs

[1] Debt financing (gearing) can be used as an alternative corporate governance mechanism to monitor a firm's management (Jensen, 1993). Debt holders are likely to demand strict compliance with debt agreements (which may also be known as debt covenants) and will closely monitor a firm's management (Gillan, 2006, p. 388).

[2] Bye-laws and charter provisions are 'those governance features that serve as potential barriers to the market for corporate control', for example, anti-takeover measures (Gillan, 2006, p. 388). One purpose of such anti-takeover measures is to force potential acquirers to negotiate with the target company boards so that shareholders receive a higher premium in the case of acquisition (Gillan, 2006, p. 388).

following poor corporate financial performance. An important feature of their study is that it examined senior management turnover before and after the publication of the *Cadbury Report* (1992). Dahya et al. (2002) found a significantly negative relationship between firm performance and senior management turnover before and after the issuance of the *Cadbury Report's* recommendations and this relationship is stronger after the issuance of the *Cadbury Report.* The findings also show that board-level monitoring by the non-executive directors in the UK has significantly improved and many UK firms changed their policies in replacing their non-performing CEOs, following the publication of the *Cadbury Report* (1992).

Weir and Laing (2001) examined the relationship between compliance with the *Cadbury Report* and firm performance for the period 1992 to 1995 for a sample of 200 firms listed on the London Stock Exchange. They focused on compliance with the three aspects of the *Cadbury Report*, namely: (a) the duality of the Chief Executive Officer (CEO) and Chairman roles; (b) the percentage of non-executive directors; and (c) the presence of a remuneration committee. Weir and Laing (2001) found that full compliance with the *Cadbury Report* did not necessarily improve the performance of firms. However, they reported an increasing trend in the appointment of non-executive directors following the publication of the *Cadbury Report* (1992). Weir and Laing (2001) argued that board structure (as measured by the percentage of non-executive directors) is an endogenous variable, which means that firms with poor performance in one year are likely to appoint more non-executive directors in the following year. This implies that the governance-

performance research using econometric techniques is affected by endogeneity problems and the findings of governance-performance research should be interpreted with caution.

The governance literature has predominantly focused on the relationship between internal corporate governance mechanisms and firm performance. External corporate governance mechanisms include the market for corporate control, such as mergers, acquisitions and takeover activities. By investigating the interaction between internal and external corporate governance mechanisms, Weir et al. (2002) tested the hypothesis whether poorly performing firms were more vulnerable to being taken over in the capital market. Using a sample of non-financial firms listed on the London Stock Exchange between 1994 and 1996, Weir et al. (2002) did not find any significant relationship between the percentage of non-executive directors and firm performance. Discussing the limitations of internal corporate governance mechanisms, Weir et al. (2002) argued that compliance with the *Cadbury Report* did not improve firms' performance, although poorly performing firms were vulnerable to the threats of hostile takeovers. In other words, they suggest that the relationship between internal corporate governance and firm performance is a complex phenomenon.

Dahya and McConnell (2007) examined the relationship between changes in board composition and firm performance for a sample of 1,124 UK firms, using the accounting-based and market-based measures of firm performance (ROA and stock returns). The study also covered two unique time periods, the pre-*Cadbury* era and the post-*Cadbury* era. Two methods, regression analysis and event study methodology were used to measure the relationship between corporate governance and ROA and stock returns respectively. For

the market-based measure of firm performance, Dahya and McConnell (2007) found that the stock market reacts positively to firms' announcement relating to compliance with the non-executive directors requirements of the *Code*. This shows that investors perceive that the appointment of non-executive directors enhances a firm's monitoring and control. For the accounting-based measure of firm performance, Dahya and McConnell (2007) found that the operating performance of compliant firms was significantly higher than that of their peers who were non-compliant with the *Code*.

Recently, the level of compliance with the corporate governance code in the UK has increased substantially, and the Grant Thornton (2012, p. 8) survey shows that more than 50 per cent of the FTSE 350 firms were fully compliant with the requirements of the corporate governance code between 2010–2012, compared with a 28 per cent compliance rate in 2005. This increasing trend in compliance has now shifted the perspective of regulators, investors and corporate governance researchers towards the quality of explanations reported for non-compliance with the recommended codes of best practice. For instance, Arcot et al. (2010) investigated the effectiveness of the 'comply or explain' system of corporate governance in the UK by examining the level of compliance for a sample of 245 non-financial firms for the period 1998–2004. They found that, although the level of compliance improved, the quality of explanations for non-compliance did not improve and non-compliant firms tended to report standard explanations[3] for non-compliance. Arcot et al. (2010) further argued that companies with a concentrated ownership structure tended to comply less compared with those having a dispersed

[3] Also known as boiler-plate explanations. These explanations are largely uninformative. Examples include the use of standard phrases, such as 'in the best interest of the company' ..... 'the board believes that' ..... 'we believe that' etc.

ownership structure. The quality of disclosure, as measured by the quality of reported explanations for non-compliance, is also poor for firms with a concentrated ownership structure and this could be attributed to the fact that firms with dominant blockholders (insiders) have less incentive to disclose public information, owing to minimum information asymmetries in firms with highly concentrated ownership structures.

The empirical research by La Porta et al. (1998) has been the foundation of cross-country corporate governance research. La Porta et al. (1998) find that common law countries provide the strongest protections for shareholders and creditors; French civil law countries give the weakest protections for investors; and German and Scandinavian civil law protection falls between common law and the French civil law system. For instance, Anderson and Gupta (2009) examined the interaction between firm-level corporate governance mechanisms and country-level corporate governance mechanisms for a sample of 1,736 firms operating in a market-based system and a bank-based system of corporate governance. The findings show that firms operating in a market-based system achieve higher market valuation as compared with their counterparts (of a similar size) operating in a bank-based system of corporate governance. The findings imply that country-level corporate governance regulations have a significant influence on firm-level corporate governance mechanisms and subsequently on firm performance and market valuation.

Empirical research shows that firms operating in weaker legal systems (with weak investor protection) can adopt strong corporate governance mechanisms, as they have an incentive to obtain a higher market valuation and to access the capital markets on better terms and conditions. For instance, Dahya et al. (2008) argue that large shareholders may

appoint independent non-executive directors to enhance the performance of firms operating in weaker legal regimes. Using data on board composition and share ownership of 839 firms located in 22 countries, Dahya et al. (2008) found that large shareholders can offset the negative impact on a firm's performance that results from its location in a weaker legal regime by enhancing monitoring and control through the appointment of independent non-executive directors on the board. Other cross-country corporate governance studies show that similar corporate governance and control mechanisms could yield similar results in different corporate governance systems (Conyon and Schwalbach, 2000; Franks and Mayer, 1997). Conyon and Schwalbach (2000) examined executive compensation practices in the UK and Germany and they found a strongly positive association between executive pay and the performance of firms in both countries. The findings imply that some of the fundamental assumptions of agency theory may also hold across a stakeholder-based system of corporate governance (Germany). For instance, agency theory suggests that executive compensation can be used as a tool to minimise a conflict of interest between shareholders and managers.

Researchers have also examined the role of board of directors in the context of listed companies (Yermack, 1996; Kiel and Nicholson, 2003; Pathan and Faff, 2013). These studies have focused on different board attributes, such as board size, the percentage of independent non-executive directors, the frequency of board meetings and the role of debt financing. However, empirical results on the relationship between corporate governance and firm performance are inconclusive. The compliance or non-compliance indices used in earlier studies have focused only on the one aspect of a 'comply or explain' principle. The explain element of a 'comply or explain' principle has largely been ignored in the

governance research. The debate about the effectiveness of a unitary board system vs a two-tier board system (Davies, 2000) and the effectiveness of a common law system vs a civil law system (La Porta et al., 1998) also provides an opportunity for researchers to examine the effectiveness of corporate governance regulations in a cross–country setting and a comparative study could better explain the differences of and implications for national corporate governance regulations. This inconclusive evidence indicates that the relationship between corporate governance and firm performance is still an unresolved issue which needs further investigation. Therefore, this study re-examines the governance-performance relationship in a cross-country setting.

1.2 Objectives of the study and research questions

This study investigates the relationship between internal corporate governance mechanisms (such as compliance with the corporate governance codes, board size, the percentage of non-executive directors, the frequency of board meetings, gearing) and the operating and financial performance of firms in the UK and Germany. Comparative corporate governance research is a relatively new and under-researched area. The UK and Germany have been chosen for this study because they exhibit different board structures, with the UK having a unitary board structure and Germany a two-tier board structure. Also the two jurisdictions have different legal backgrounds – a common law system in the UK as opposed to a civil code in Germany. However, both countries have implemented formal governance codes. The two jurisdictions therefore provide a rich context against which to explore the effectiveness of firm-level corporate governance mechanisms and national corporate governance regulations. The second objective of the study is to compare the

level of compliance with the corporate governance codes in the UK and Germany. Finally, for non-compliant firms, this study focuses on the quality of explanations reported by non-compliant firms in the UK and Germany. For this purpose, each explanation reported by a non-compliant firm in response to non-compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code*[4] has been critically analysed. The reported explanations for non-compliance with the corporate governance codes are divided into different categories based on whether they are less informative or highly informative and the results are compared across these two countries. The following two broader questions have been addressed in this thesis:

a. How have internal corporate governance mechanisms affected firm performance across different corporate governance systems?
b. How do the types, quality and pattern of explanations for non-compliance with the corporate governance codes vary across the UK and Germany?

1.3 Motivation of the study

Since the publication of the *Cadbury Report* (1992) in the UK, researchers have extensively examined the effectiveness of corporate governance regulations in the UK and other parts of the world. This comparative study investigates the impact of corporate governance mechanisms on the performance of firms in two major European economies, the UK and Germany. Although there are differences in the ownership structures, board structure, legal systems and capital markets, there are similarities across the UK and

[4] The 2007, 2008, 2009 and 2010 versions of *The German Corporate Governance Code* and the 2006, 2008 and 2010 versions of *The UK Corporate Governance Code* are applicable during the reporting period 2007–2011.

German corporate governance systems. For instance, the corporate governance codes in both countries are based on a 'comply or explain' principle. These differences and similarities have attracted the attention of regulators and academics in terms of exploring alternative corporate governance regimes and to choose the best corporate governance practices from a bundle of international corporate governance regulations.

Corporate governance codes around the world are based on the assumption that strong internal corporate governance or firm-level corporate governance mechanisms could help in protecting the interests of shareholders (Gompers et al., 2003). Firms with strong internal corporate governance mechanisms can access capital markets on better terms and conditions (Aggarwal et al., 2010) and investors are willing to pay a premium for companies that are well governed (e.g., fully compliant with a corporate governance code) (Chhaochharia and Laeven, 2009). Strong internal corporate governance mechanisms are likely to improve a firm's operating and financial performance. However, empirical evidence on the relationship between internal corporate governance and firm performance is inconclusive. Therefore, this study examines the effectiveness of internal corporate governance mechanisms in two different corporate governance systems, namely the UK and Germany.

This study also investigates the quality of corporate governance disclosure in the 'comply or explain' regimes – the UK and Germany. Compliance and the explanations reported for non-compliance with a corporate governance code are claimed to be the two most important pillars of an effective corporate governance system (Hooghiemstra and Van Ees, 2011). Recently, the UK and EU regulators have raised concerns about the

quality of the reported explanations for non-compliance (corporate governance disclosure). The whole idea of the 'comply or explain' principle is to avoid a rules-based (one-size-fits-all) approach to corporate governance so that firms have a choice to adopt a code's provision or implement strong internal corporate governance mechanisms in response to those provisions recommended by the code of corporate governance (Hooghiemstra and Van Ees, 2011). *The UK Corporate Governance Code* (2012) states that companies should avoid using ambiguous statements when they choose not to comply with a provision of the *Code*. The *Code* strongly encourages the investor communities to pay significant attention to the quality of explanations reported by non-compliant firms. Theoretically, from an agency theory perspective, the flow of information arising from voluntary corporate disclosure may also reduce the information asymmetry between owners and managers. Therefore, this study also investigates the quality of corporate governance disclosure or the quality of reported explanations for non-compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code.*

1.4 Contribution of the study

1.4.1 Contribution to the literature

This research fills an existing gap in the literature by contributing to the existing comparative corporate governance research in an area which has been under-researched, namely, the context of a unitary board structure (UK) and a two-tier board structure (Germany). This study contributes to the corporate governance disclosure and governance-performance literature in several ways. First, a unique feature of this study is that it focuses on the 'explain' element of the 'comply or explain' principle and has examined the

different types of explanations reported by non-compliant firms in the UK and Germany. This is the first study which analyses the longitudinal pattern of changes in the types and quality of explanations reported by non-compliant firms across different corporate governance systems. Using a mechanistic (quantitative) content analysis approach, 600 corporate governance reports were analysed for a sample of 120 companies across the UK and Germany for the period 2007–2011. Prior studies (e.g., Hooghiemstra and Van Ees, 2011; Seidl et al., 2012) have examined the quality of explanations for only one accounting period. This study extends the work of Hooghiemstra and Van Ees (2011) and Seidl et al. (2012) and provides evidence on how the quality of explanations reported for non-compliance varies over time and across different firms and different countries. The categories of explanations used in this research are different from those reported in prior studies (Hooghiemstra and Van Ees, 2011; Seidl et al., 2012). For instance, when categorising (coding) the explanations reported by non-compliant firms, two new categories emerged. This indicates that a longitudinal study of a large sample of compliance statements could yield better results as compared with a study that has been carried out for one financial year.

Second, the 'comply or explain' index used in this study is more comprehensive than those used by previous corporate governance studies. For example, prior governance-performance studies have either focused on the level of compliance or non-compliance with corporate governance codes by developing a corporate governance index for each firm (e.g., Beiner et al., 2006) or by using commercially available indices from different rating agencies, such as: (a) the Investor Responsibility Research Centre (IRRC) data on

corporate governance (Gompers et al., 2003); (b) the Credit Lyonnais Securities Asia (CLSA) governance index (Klapper and Love, 2004); (c) the Deminor corporate governance ratings for EU firms (Bauer et al., 2004; Bauwhede and Willekens, 2008); and (d) the Institutional Shareholder Services (ISS) data on corporate governance (Aggarwal et al., 2010). The 'comply or explain' index used in this study not only captures the level of compliance with corporate governance codes but also focuses on the quality of explanations reported for non-compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code*.

1.4.2 Theoretical contribution

Corporate governance researchers have predominantly examined the governance-performance phenomenon through the lens of agency theory. The empirical results reported in this study support the assumptions of agency theory, stewardship theory, resource dependence theory and stakeholder theory. This suggests that corporate governance researchers need to adopt multiple theoretical perspectives to analyse the relationship between internal corporate governance mechanisms and firm performance. A multiple theoretical perspective could be very helpful in examining the governance-performance relationship in different corporate governance systems. For instance, an agency theory framework could better explain the governance issues in a shareholder-based system of corporate governance (such as the UK), while stakeholder theory would be more suitable to examine a stakeholder-based system of corporate governance (such as Germany).

1.4.3 Methodological contribution

This study has used a number of methods to examine the effectiveness of corporate governance regulations in different corporate governance systems. A generalised method of moments (GMM) model is used to examine the relationship between internal corporate governance mechanisms and firm performance. A mechanistic (quantitative) content analysis method is applied to investigate the quality of explanations reported in response to non-compliance with the corporate governance codes. The explanations for non-compliance were also used in developing a 'comply or explain' index for each firm in the sample. This shows that corporate governance researchers should focus on both aspects of a 'comply or explain' principle, particularly when carrying out a research in the context of a principles-based system of corporate governance, which is based on a 'comply or explain' principle.[5] In other words, focusing only on the compliance aspect of a 'comply or explain' principle would undermine the second important pillar of a 'comply or explain' system of corporate governance – the explanations reported for non-compliance with the corporate governance codes.

Another contribution of the study is the use of the generalised method of moments (GMM) model in a comparative corporate governance research. The findings reported in prior studies on the relationship between corporate governance mechanisms and firm performance should be 'interpreted with caution' because the econometric techniques used in these studies fail to control for different kinds of endogeneity – a situation when the causality may run from performance to governance (Schultz et al., 2010 , p. 146). Wintoki

[5] In terms of a 'comply or explain' principle, companies are required to comply with a corporate governance code or otherwise explain the reasons for non-compliance.

et al. (2012) identified three sources of endogeneity and the existence of even one source of endogeneity in the model will generate inconsistent results. These three sources of potential endogeneity are: (a) unobserved heterogeneity; (b) simultaneity or reverse causation; and (c) dynamic endogeneity. Unobserved heterogeneity arises when the relationship between corporate governance and firm performance is affected by an unobservable factor (for instance, firm-specific characteristics), which may be unknown to the researcher. Simultaneity or reverse causation arises when governance and performance affect each other simultaneously. For example, prior research has found that compliance with corporate governance code enhances a firm's financial performance and valuation, however firms with higher market valuation are likely to implement strong corporate governance mechanisms (Durnev and Kim, 2005). Dynamic endogeneity arises when a firm's past/current performance affects the current/future governance structure of a firm (Wintoki et al., 2012, p. 582). For example, poor corporate performance in one year may cause changes in the governance structure (removal of one or more directors from the board by shareholders) of a firm in the following year. Keeping in view the dynamic nature of the governance-performance relationship, the GMM model includes the lagged effect of the dependent variables (firm's past financial performance) as an instrument (explanatory variable) to control for the endogeneity being caused by simultaneity (Wintoki et al., 2012). The fixed-effects and random-effects models are also known as static panel data models, which means that these models do not allow for the lagged values of the dependent variable (financial performance) to be included in the econometric model. The inconclusive empirical evidence on the relationship between corporate governance and firm performance could also be attributed to the use of inappropriate econometrics

techniques applied by previous researchers. The use of the GMM model could be considered as part of the methodological developments in corporate governance research. Finally, the conceptual and methodological framework used in this study provides a new direction for corporate governance researchers.

Both the ordinary least squares regression and the fixed-effects models fail to control for unobserved heterogeneity and dynamic endogeneity respectively. Unobserved heterogeneity can potentially be controlled by applying a fixed-effects estimation technique under the assumption of strict exogeneity, which implies that current corporate governance mechanisms of a firm (e.g., independent variables) are completely unaffected by any changes in a firm's past, present and expected financial performance (e.g., dependent variables ROA and Tobin's Q). In reality, this is not the case and firms with poor performance in one year are likely to modify their governance arrangements (board size, the percentage of non-executive directors) in the following year. Therefore, applying these models (OLS and fixed-effects) in the governance-performance research would generate inconsistent and biased results (Wintoki et al., 2012). In fact, one of the reasons for the inconclusive empirical evidence in the governance-performance literature could therefore be attributed to the use of these econometric techniques, which do not fully control for the endogeneity issues. However, prior empirical studies acknowledged the limitations of these econometric techniques (Denis, 2001) and the emergence of GMM methodology in the governance research could potentially be considered as an extension of these econometric techniques (such as the ordinary least squares regression and fixed-

effects models).[6] A GMM model, although based on the fundamental assumptions of ordinary least squares regressions, improvises the model by allowing additional variables of lagged values of the dependent variable, and, by transforming the data, removes endogeneity (fixed effects) (Roodman, 2009).

In the past 23 years, since the publication of the *Cadbury Report* and with the emergence of index-based governance-performance studies, accounting and finance researchers have been frequently criticised for using econometric techniques which did not control fully for endogeneity issues in the governance-performance research (Wintoki et al., 2012). For instance, most corporate governance researchers have either used OLS regression (Weir et al., 2002; Gompers et al., 2003; Klapper and Love, 2004) or a fixed-effects model (e.g., Yermack, 1996; Chhaochharia and Laeven, 2009; Ammann et al., 2011) to estimate the relationship between governance and performance. The emergence of a GMM methodology in the corporate governance research would therefore resolve some of the unanswered questions raised over the governance-performance research in the past two decades.

1.5 Structure of the thesis

The thesis is structured as follows. Chapter 2 focuses on the literature review, which provides a theoretical and empirical link between internal corporate governance mechanisms and the performance of firms, particularly in the context of two different corporate governance systems (the UK and Germany). Chapter 2 also reviews the existing

[6] The author acknowledges the fact that, until now, the OLS has been believed to be a popular econometric technique in the accounting and finance literature. Therefore, this study also reports the results for the OLS analysis.

literature on corporate governance disclosure and outlines the research questions and a conceptual framework for this thesis. Furthermore, a brief history of the development of corporate governance codes in the UK and Germany is also provided in Chapter 2.

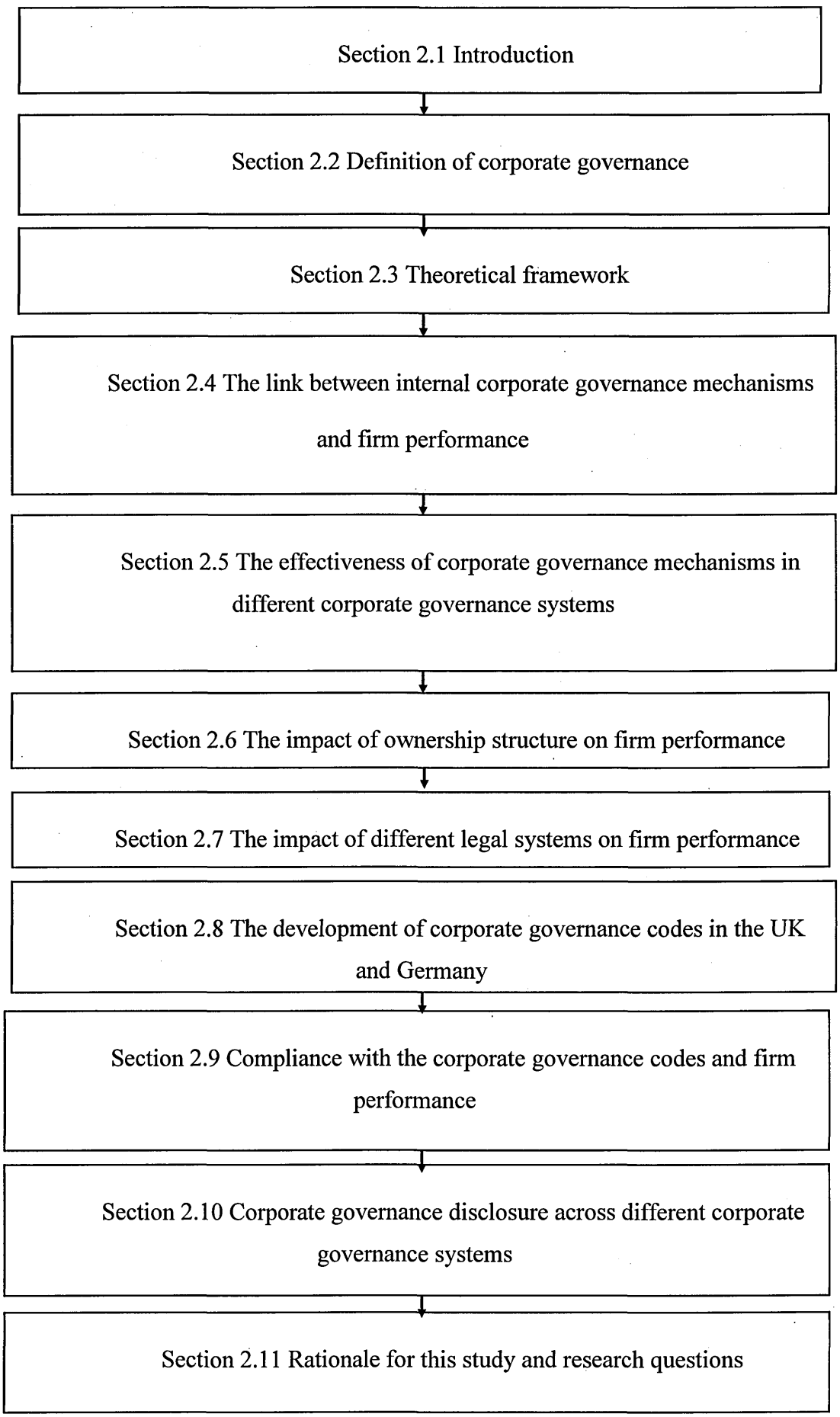
Chapter 3 explains and justifies the chosen research methodology that is used in carrying out this research. It also discusses the data and sample selection procedures and provides a definition for each variable used in this research. Chapter 3 also explains how the two empirical methods (quantitative content analysis and econometric analysis) work together as a coherent methodological framework to answer the two broader research questions.

Chapter 4 presents empirical results from the content analysis of the 600 corporate governance reports for a sample of 120 non-financial firms selected from the UK and Germany over the period 2007–2011. Chapter 4 compares the level of compliance with the corporate governance codes across the UK and Germany. For non-compliant firms, the reported explanations for non-compliance are analysed and the results are compared for these two countries.

Chapter 5 reports the findings regarding the relationship between internal corporate governance mechanisms and the performance of firms for the same number of firms chosen from the UK and Germany for the period 2007–2011.

Finally, Chapter 6 concludes the thesis and summarises the main findings, implications and limitations of the study and suggests avenues for future research.

Chapter 2. Literature Review



2.1 Introduction

This thesis investigates the impact of internal corporate governance mechanisms in two different corporate governance systems (the UK and Germany) during the period 2007 and 2011. The time period 2007–2011 has been chosen because full corporate governance and financial data was available for all the sample firms at the time of data collection for this study, which was carried out between 2012 and 2014. The thesis also investigates an under-examined aspect of the value relevance and effectiveness of corporate governance disclosure by focusing on the quality of explanations reported by firms which are non-compliant with *The UK Corporate Governance Code* and *The German Corporate Governance Code*. The UK and Germany are the major EU economies, and have different legal systems, board structures, ownership structures and capital markets. Section 2.10 provides justifications and rationale for choosing these two countries for this research. The following section discusses the various definitions of corporate governance.

2.2 Definition of corporate governance

There is no universal definition of corporate governance: policy makers, practitioners, researchers and academics have presented different definitions of corporate governance. Shleifer and Vishny (1997, p. 737) define corporate governance as:

> 'The ways in which suppliers of finance to corporations assure themselves of getting a return on their investment. How do the suppliers of finance get managers to return some of the profits to them? How do they make sure that managers do not steal the capital they supply or invest it in bad projects? How do suppliers of finance control managers?'

Parkinson (1994, p. 6) defines corporate governance as 'the process of supervision and control (of "governing") intended to ensure that the company's management acts in accordance

with the interests of shareholders'. The above definitions primarily concentrate on the relationship between managers and shareholders and explain the scope of corporate governance from an agency theory perspective. In other words, it is proposed that protection of shareholders' interest is a primary concern of corporate governance. Therefore, the main role of corporate governance is seen to ensure the effective and efficient use of firm's resources so that the interests of owners (shareholders) are well protected.

Corporate governance issues, such as the shareholder-manager relationship in modern corporations and the potential conflict of interest between owners and managers, could be seen as a possibility as early as 1776, when these issues were highlighted by Adam Smith. According to Smith (1776, p. 700):

> 'The directors of such [joint-stock] companies, however, being the managers rather of other people's money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnery[7] frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honour, and very easily give themselves a dispensation from having it. Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company'.

Much later, Berle and Means (1932, p. 69) outlined the separation of ownership and control in large corporations and characterised the modern corporation as having the 'ownership of wealth without appreciable control and control of wealth without appreciable ownership'. Following Berle and Means (1932), Jensen and Meckling (1976) developed the agency theory of the firm and argued that the separation of ownership and control in the modern organisation can give rise to a conflict of interest between owners and managers, which potentially affects

[7] According to the Oxford English Dictionary Online, the term copartner is defined as 'a partner or associate, especially an equal partner in a business' and having joint interest in the firm.

adversely the interests of the owners of the firm. Jensen and Meckling (1976) also suggest that appropriate incentive schemes or effective control (governance) mechanisms are likely to re-align the interests of owners and managers. Based on the seminal work of Jensen and Meckling (1976), a good deal of academic research on corporate governance has been developed in the field of business administration. A recent research study on the history of corporate governance concludes that 'the possibility of conflict of interest between owners and managers has been with us for centuries and will continue as long as business activity is conducted through the corporate form' (Cheffins, 2012, p. 23).

In order to resolve the agency problem and align owner-manager interests, Jensen (1993) outlines four categories of corporate governance mechanisms, which are: (a) capital markets; (b) the legal/political/regulatory system; (c) product market competition; and (d) an internal control system headed by the board of directors. These four corporate governance mechanisms can be further divided into two broader categories: internal and external corporate governance. Internal governance mechanisms (also known as firm-level governance mechanisms) are those mechanisms which operate within the firm. Some commonly used internal corporate governance mechanisms are the board of directors, managerial incentives, capital structure, company bye-laws and charter provisions and internal control systems. External governance mechanisms operate outside the firm's operating environment, for example, legal and regulatory mechanisms, product market competition and the market for corporate control, such as mergers, acquisitions and takeovers (Gillan, 2006).

External corporate governance mechanism, such as capital markets, may exercise a significant disciplinary role over poorly performing companies in different ways (Solomon,

2007, p. 19). First, shareholders of a poorly performing firm may vote in favour of a takeover bid, which may result in a potential executive turnover after the acquisition. Second, firms that are fully compliant with the corporate governance codes may find it convenient to raise additional capital on better terms and conditions as compared with non-compliant firms (Aggarwal et al., 2010). These external pressures may also align managers' interests with those of shareholders' interests. Similarly, laws and regulations also serve as an external corporate governance mechanism (Jensen, 1993). Various rules and regulations are developed to control and monitor the corporate sector, such as company laws, taxation laws and labour laws. These regulations cover a wide range of corporate issues from the formation of a company to the winding-up of a company. Failures to comply with such binding regulations may result in extensive fines and penalties. For instance, Lehman Brothers Holdings Incorporation was forced by the Securities and Exchange Commission (SEC) to pay a compensation of US$ 50 million for violating disclosure related requirements of the *Sarbanes-Oxley Act* (Tricker, 2012, p. 156). Product market competition is another external corporate governance mechanism. Denis (2001, p. 207) argues that poorly performing firms with inefficient management are likely to lose their market share in competitive markets, which could result in financial distress and bankruptcy.

The importance and limitations of internal and external governance mechanisms have been debated in earlier research. For example, Jensen and Meckling (1976) argue that both internal and external governance mechanisms are important in minimising the agency problem. Discussing the limitations of external governance mechanisms, Jensen (1993, p. 27) also states that 'the legal/political/regulatory system is far too blunt an instrument to handle the problems

of wasteful managerial behaviour effectively'. Similarly, the market for corporate control (mergers and acquisitions) could result in additional conflict of interests between owners and managers (Denis, 2001; Gillan, 2006). For instance, the post-acquisition value to the acquirer (bidder) may be negative or zero and the deal could have been poorly advised by inefficient managers, being motivated to increase their control over the firm (Gillan, 2006, p. 396). Therefore, implementing strong internal governance mechanisms at firm-level could help in minimising the need for expensive and lengthy external governance mechanisms (such as legal actions). In fact, majority of the recommendations in the corporate governance codes around the world relate to the effectiveness of firm-level internal corporate governance mechanisms. The empirical literature on corporate governance has largely emphasised the relationship between internal corporate governance mechanisms and firm performance. Keeping in view the limitations of external corporate governance mechanisms, and in line with the previous empirical research, this study also focuses on the effectiveness of internal corporate governance mechanisms.

The remainder of the chapter is organised as follows. Section 2.3 reviews the theoretical framework underlying corporate governance research; Section 2.4 examines the link between internal corporate governance mechanisms and firm performance; Sections 2.5 and 2.6 consider the effectiveness of corporate governance regulations in different legal systems; Section 2.7 looks at the development of corporate governance reforms in the UK and Germany; Sections 2.8 and 2.9 review the academic literature on the relationship between governance and firm performance and the effectiveness of corporate governance disclosure in various corporate

governance systems; and finally, Section 2.10 identifies the research gap and presents research questions.

2.3 Theoretical framework

A number of theories has been proposed and used by scholars as a theoretical foundation for corporate governance research. These theories include: (a) agency theory; (b) stewardship theory; (c) resource dependence theory; and (d) stakeholder theory. In the light of these theories, the theoretical link between corporate governance and firm performance is discussed below.

2.3.1 Agency theory

This theory focuses on the contractual relationship between a firm's managers and its shareholders. Jensen and Meckling (1976, p. 5) define an agency relationship as 'a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent'. It is unlikely that the agent (managers) will always work in the best interests of the principals (shareholders). This opportunistic behaviour by a firm's managers may result in a conflict of interest between principals (owners) and agents (managers). This phenomenon (also known as the agency dilemma) creates agency costs for the firm, thereby affecting a firm's value negatively. Agency costs can be reduced if the agents (managers) pursuing their self-interests are properly monitored by shareholders (Jensen and Meckling, 1976; Fama, 1980). For monitoring purposes, corporate governance codes require the appointment of non-executive directors to oversee the resources of a firm. Monitoring managers can be costly in many ways. First, a shareholder, who owns a small number of shares, may lack industry expertise and may

not be able to differentiate between good and bad managerial decisions, particularly when exercising his/her monitoring (voting) powers in the annual general meeting. Second, small shareholders do not have enough incentive to monitor managers because they may invest in many firms, and the cost of monitoring each of the firms in a diverse portfolio can outweigh the potential benefits (Denis, 2001, p. 196). Third, the monitoring process evolves with the changes in the ownership structure of a company (Solomon, 2007, p. 19). For instance, an individual investor who directly invests in a company may have different incentives to monitor a company's management as compared with institutional investors, who manage investment on behalf of individual investors. However, recent regulations in the UK (*The UK Stewardship Code*, Financial Reporting Council, 2012a) require institutional investors to disclose fully in their annual report on how they monitor their investee companies.

According to Denis (2001, p. 196), 'the most obvious solution to an agency problem would seem to be a contract that bonds the agent to do as the principal would like'. This could partly mitigate the agency problem because employment contracts are incomplete owing to many uncertainties in the real world. First, it is difficult to determine what action an employee should take in a particular situation. Second, it is also difficult to ascertain 'what is the value-maximizing action in every situation' (Denis, 2001, p. 196). In addition, appropriate incentives in the form of stock ownership and market-based competitive compensation can help in mitigating the level of agency problem (Jensen and Meckling, 1976; Denis, 2001). In most cases, it is likely that bonding and monitoring may increase the potential benefits to a firm. However, it is also possible that the monitoring costs may exceed the potential benefits to a firm. This reduction in shareholders' benefits which arises from excessive monitoring costs is

known as the cost of residual loss (Jensen and Meckling, 1976). Hence, in practice it is unlikely to eradicate completely the agency problem and the potential agency costs.

The flow of information from managers (adequate disclosure) may also result in minimising the conflict of interests between owners and managers (Hooghiemstra, 2012). A good example is the 'comply or explain' principle, which is based on the idea that effective governance (monitoring) can be achieved if firms adopt the recommended provisions in a corporate governance code or otherwise fully explain and justify the reasons for non-compliance so that shareholders can make a better judgement based on such disclosure in the annual reports (Cadbury, 1992). The information arising from voluntary corporate governance disclosure reduces the information asymmetries (differences in the available information) between managers and shareholders (Jensen and Meckling, 1976; Hooghiemstra, 2012). Therefore, voluntary corporate governance disclosure is of potential benefit to the reporting firm because it reduces the likelihood of any firm-specific risk that may arise as a result of any information gap between owners and managers. It also lowers a firm's cost of capital (Botoson, 1997, cited in Hooghiemstra, 2012, p. 7). For example, firms which are fully compliant or which fully disclose the reasons for non-compliance can access the capital markets on better terms and conditions and can borrow at a relatively lower rate (Klapper and Love, 2004). These external benefits from the capital markets may provide an incentive to the firm to be fully compliant or otherwise fully explain and disclose the justification for non-compliance with a corporate governance code (Chhaochharia and Laeven, 2009).

Corporate governance mechanisms help in reducing agency costs and improving a firm's performance by aligning the interests of shareholders and managers. From a monitoring

perspective, corporate governance mechanisms, such as the board composition and board size, play a key role in mitigating the agency problem. For example, agency theory suggests that boards with more outside directors (non-executive directors) can increase the monitoring efficiency and performance of a firm (Fama, 1980). In other words, non-executive directors are considered more independent and better monitors as compared with inside directors (executive directors). Likewise, the existence of non-executive directors (monitors) on the board can introduce a balance of power between shareholders and management. Therefore, the outside directors can effectively prevent the expropriation of firms' resources.

Different corporate governance codes (regulations) around the world are developed based on the core assumptions of agency theory and require additional monitoring and oversight over the directors and managers in public listed companies. In the past 20 years, various corporate governance codes in the UK have also emphasised the increasing role of non-executive directors. For example, the required proportion of non-executive directors has gradually increased from three in the *Cadbury Report* (1992) to one third in the *Hampel Report* (1998); and to at least one half in the recent *UK Corporate Governance Code* (Financial Reporting Council, 2012b).

With better corporate governance practices, in terms of compliance with the corporate governance codes, managers are likely to invest in profitable projects because efficient monitoring reduces the chances of excessive waste of organisational resources (Love, 2011, p. 45). Aggarwal et al. (2010) argue that well-governed firms are less risky and the investors are better protected. Therefore, such firms are able to attract external finances at a lower cost of capital, which improves their performance. A recent research study on the performance of

commercial banks during the 2007 financial crisis shows that firms with strong corporate governance mechanisms are likely to avoid risks that may negatively affect shareholders' value (Beltratti and Stulz, 2011, p. 7). Some studies have also shown a positive relationship between good governance mechanisms and a firm's performance (e.g., Yermack, 1996; Gompers et al., 2003; Brown and Caylor, 2009). These studies have reported a positive impact of corporate governance mechanisms on different aspects of a firm's performance.[8] In the context of the UK, Dahya et al. (2002) and Dahya and McConnell (2007) found that the presence of non-executive directors on the UK boards improved firm-level monitoring and the performance of firms.

In the context of agency theory, it can be argued that smaller boards with higher proportion of non-executive directors are active monitors of firm resources. Therefore, the board of directors plays a significant role in minimising agency costs and thereby in improving a firm's financial performance. On the other hand, it is also expected that full compliance with a corporate governance code or full disclosure in the case of non-compliance would be positively valued by the capital markets. Section 2.4.1 and Section 2.4.2 report additional empirical evidence on the assumptions of agency theory, stewardship theory and resource dependence theory.

2.3.2 Stewardship theory

Agency theory assumes that managers are rational human beings who maximise their own interests, although monetary rewards (compensation) and monitoring could partly mitigate the conflict of interests between owners and managers (Jensen and Meckling, 1976). This

[8] These financial performance measures are: (a) operating performance (return on assets, return on equity); (b) market-based measures of firm performance (as measured by Tobin's Q – the ratio of the market value of assets relative to the book value of assets) and (c) stock returns.

assumption of 'economic man' or opportunistic behaviour may not hold true for all individuals (Davis et al., 1997, p. 20). Stewardship theory, which is derived from the disciplines of sociology and psychology, is a perspective about individuals (managers) that is different from agency theory. According to stewardship theory, managers are trustworthy stewards of a firm's resources and they would pursue actions that maximise organisational interests over their own interests (Donaldson, 1990; Donaldson and Davis, 1991). Table 2.1 below presents a comparison of agency theory and stewardship theory.

Table 2.1 A comparison of agency theory and stewardship theory

	Agency theory	**Stewardship theory**
1. Model of man	Economic man	Self-actualising man[9]
2. Behaviour	Self-serving	Collective-serving
Psychological mechanisms		
3. Motivation	Lowest-order/economic needs (physiological, security, economic).	Higher-order needs (growth, achievement self-actualisation).
	Extrinsic	Intrinsic
Situational mechanisms		
4. Management philosophy	Control-oriented	Involvement-oriented
5. Risk orientation	Control mechanisms	Trust
6. Time frame	Short term	Long term
7. Objective	Cost control	Performance enhancement
8. Cultural differences	Individualism	Collectivism
	High power distance	Low power distance

Source: Adapted from Davis et al. (1997, p. 37).

The idea of agency theory is based on individualism, which leads to opportunistic behaviour and short-termism, while stewardship theory is based on collectivism. For instance, stewardship theory argues that managers are likely to attain organisational objectives

[9] According to the *Oxford English Dictionary Online*, the term self-actualisation refers to 'the realization or fulfilment of one's talents and potentialities, especially considered as a drive or need present in everyone'.

(profitability), which will eventually benefit both owners and managers in the form of dividends and increased remuneration.

Agency theory suggests the need for a strong body of non-executive directors to monitor independently the resources of firms. Alternatively, stewardship theorists argue that shareholders' and managers' interests can be better aligned if the executives are provided with non-monetary rewards, such as the provision of authority, responsibility and recognition of successful performance. According to stewardship theory, the executive directors (stewards), as employees of the organisation, possess more information than non-executive directors. Proponents of this theory suggest that a higher number of executive directors represented on the board can improve the performance of the board, because the executive directors have a better understanding of the business as compared with the non-executive directors (Donaldson and Davis, 1991). Another argument in support of a higher percentage of executive directors is that non-executive directors allocate limited time to their companies, and they may not be able to understand fully the complex organisation structure and business model of a company (Tricker, 2012). Therefore a significant proportion of executive directors (or executives) on the board can ensure effective and efficient decision making.

Stewardship theory also emphasises the legal responsibilities of the board of directors and assumes that the board has a 'fiduciary duty' to act in the best interests of the owners of the company. Giving his judgement in the London High Court in 1874, Lord Cairns held that 'no man, acting as agent, can be allowed to put himself in a position in which his interest and his duty will be in conflict' (*Parker (Public Officer of National Bank) v McKenna and others*, 1874). Tricker (2012) argues that, in the real world, some assumptions of stewardship theory

may not hold true, but this does not undermine the underlying basic concept of 'stewardship'. Proponents of this theory also suggest that managers should identify key corporate stakeholders, but under the law, their primary responsibility is to maximise shareholders' wealth.

Corporate governance researchers have widely used the assumptions of stewardship theory to test the relationship between certain board attributes and the performance of firms. For example, using a sample of 337 firms listed in the USA, Donaldson and Davis (1991) examined whether CEOs holding dual roles of CEO and chairman[10] improved the performance of firms or not. Agency theory suggests the separation of CEO and Chairman roles and the corporate governance codes around the world also require separation of these two roles so that one person does not hold too much power. Proponents of stewardship theory suggest more authority for the CEO over the company. In the majority of US companies, the roles of CEO and Chairman are combined (Solomon, 2007). Donaldson and Davis (1991) tested the assumptions of agency theory and stewardship theory by examining the impact of CEO duality on the performance of firms. The results support the assumption of stewardship theory and they suggest that firms with a combined role of CEO and Chairman have improved shareholder return compared to those that have split the roles of CEO and Chairman.

Kiel and Nicholson (2003) examined the relationship between board demographics and the performance of 500 firms listed on the Australian Stock Exchange. Kiel and Nicholson (2003) reported a positive relationship between the percentage of executive directors and the market-based measure of firm performance. These empirical results are consistent with the

[10] The *Cadbury Report* (1992) recommended that the roles of Chairman and CEO should not be fulfilled by one person.

assumptions of stewardship theory and support the idea that companies should maintain a good balance between executive and non-executive directors and that boards should not be entirely dominated by external non-executive directors (Kiel and Nicholson, 2003, p. 202).

2.3.3 Resource dependence theory

According to resource dependence theory, the board of directors plays an important role in linking an organisation with its external environment and resources. Pfeffer and Salancik (1978, p. 163) observe that 'when an organization appoints an individual to a board, it expects that the individual will come to support the organization, will concern himself with its problems, will variably present it to others, and will try to aid it'. They argue that directors bring four types of benefits to the organisation: (a) information and advice; (b) better access to external resources; (c) channels for communicating information to an outside organisation; and (d) legitimacy/strengthening the public image of the organisation. This implies that, in addition to the monitoring function of the board, non-executive directors also provide useful resources to the organisation. In addition, the firm-specific knowledge and information possessed by the executive directors are crucial in the long-term strategy setting of the organisation. Hence, the composition of the board (represented by a diverse group of executives and non-executive directors) is viewed as a resource that can add value to the firm. For example, Hillman et al. (2000) suggest that every non-executive director possesses different information, skills and linkages to other external organisations, which are directly related to firm performance. Tricker (2012) explains that companies need to adopt a balanced approach when appointing external non-executive directors. He warns that it is possible that politically connected directors or directors appointed by a majority shareholder (e.g., bank), who may bring various resources,

would also empower the directors to dictate board meeting agendas/decisions on their own terms and conditions.

Taking a more strategic view of resource dependence theory, Stearns and Mizruchi (1993) find that non-executive directors, particularly the representatives of financial institutions on the board, can also affect a firm's access to external financial resources or capital. Such representation from financial institutions enhances financial institutions' confidence in the firm because it is less likely that managers would not disclose information to those (financial institutions) that already have representations on a firm's board of directors (Stearns and Mizruchi, 1993, p. 604). From a resource dependence theory perspective, a larger board could be considered an important resource for an organisation. Researchers take a narrow view of resource dependence theory and limit the scope of resources to external resources and linkages. However, a larger board may not only link an organisation with its external environment, it can also be helpful in contributing to the other aspects of board activities, such as strategy formulation, monitoring and advice (Kiel and Nicholson, 2003, p. 17). In other words, resource dependence theory integrates some of the assumptions of agency theory, stewardship theory and a stakeholder theory. For example, the notion that a director brings resources could be applied to executive directors (stewardship theory), non-executive directors (agency theory) and stakeholder representatives on the board (stakeholder theory). In the context of Australia, Kiel and Nicholson (2003) found a significantly positive relationship between board size and the performance of firms. The findings support the assumptions of resource dependence theory that larger boards could benefit an organisation in different ways (e.g., in terms of skills, advice, monitoring, strategy formulation and linkages with external resources). The findings also show

that larger firms have a larger board size, as they need more linkages with external organisations.

Using an event study and a regression analysis, Larmou and Vafeas (2010) examined the association between board size and a firm's market value and stock returns for a sample of 257 small firms listed in the USA with a three-year history of poor operating performance between 1994 and 2000. Larmou and Vafeas (2010) find that the capital market react positively to a firm's announcement about increasing its board size and vice versa. The positive reaction from the capital markets supports the assumptions of resource dependence theory, which means that any increase or decrease in a firm's board size has important implications for investors, and, furthermore, investors consider the appointment of board members as an important resource for an organisation.

2.3.4 Stakeholder theory

According to agency theory, corporate governance mechanisms should safeguard the interests of shareholders. However, stakeholder theory takes a different view of corporate governance. Stakeholder theory argues that the board of directors should acknowledge the interests of a wide range of stakeholders, such as: (a) employees; (b) unions; (c) suppliers; (d) bankers; and (e) shareholders (Freeman, 1984). Opponents of this theory argue that implementing a stakeholder approach may result in a potential conflict of interests between various stakeholders because different stakeholders have different and 'irreconcilable' expectations (Sterberg, 2000, cited in Tricker, 2012, p. 71). The *Hampel Report* (1998, p. 12) also concluded, in reference to the UK, that 'directors are responsible for relations with stakeholders; but they are accountable to the shareholders'. In some Anglo-Saxon countries,

such as in the UK and USA, shareholders' wealth maximisation (or shareholders' primacy) is the key focus of many listed companies when making ordinary business decisions. Similarly, the corporate law and corporate governance codes in these countries also concentrate on the protection of shareholders' interests (Hopt, 2011, p. 28). On the other hand, the majority of EU countries, including Germany, has a corporate governance system not only incorporating protection of shareholders' interests but also explicitly focusing on the value maximisation of other key corporate stakeholders (such as banks and labour). For instance, the *German Codetermination Act 1976*[11] requires that half of the supervisory board must be elected representatives of employees, while the remaining members must be elected by the shareholders. Therefore, the labour representation on German boards is often considered a very important corporate governance mechanism which can facilitate additional monitoring and oversight of company management, thereby protecting the interests of employees as well as those of the shareholders. However, it is possible that such representation may create costs for the firm in the form of slow decision making, which can create a potential conflict of interest between labour representatives and shareholders' representatives on the board (Hopt, 2011, p. 54).

Empirical research shows that investment in stakeholder relations could lead to improved shareholder returns (Hillman and Keim, 2001). Using a sample of 500 US firms, Hillman and Keim (2001, p. 125) find that investment in stakeholder relations could have a long term positive impact on a firm's financial performance. For example, firms which have a strong

[11] *German Codetermination Act 1976* s 1(1)1.

relationship with their key stakeholders have a higher shareholder value and a competitive advantage in the form of employees' loyalty and firm reputation.

Stakeholder engagement has important implications for a firm's corporate governance practices, corporate social responsibility initiatives and financial performance. For instance, Ayuso et al. (2014) examined the impact of stakeholder engagement[12] on the financial performance of 946 firms from 31 countries. The findings show that increased stakeholder engagement is positively related with the financial performance of firms, as measured by the return on equity (ROE). The next section discusses how the theories of corporate governance are interrelated with each other.

2.3.5 Integration of different theories

Corporate governance theories predict a relationship between internal corporate governance mechanisms (in particular, the board of directors and compliance with the corporate governance codes) and firms' performance. A recent editorial by Kumar and Zattoni (2015), which is published in the *Corporate Governance: An International Review* journal, also recommends the use of multiple theories and multiple methods in corporate governance research, particularly when investigating the governance-performance relationship in different corporate governance systems. A study by Nicholson and Kiel (2007a) finds that no single theory explains the relationship between corporate governance and firms' performance, although each theory could explain and predict the relationship to some extent. In other words,

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[12] Stakeholder relationship measure was developed based on a number of questionnaire responses relating to a firm's relationship with its primary stakeholders (e.g., customers and employees) and secondary stakeholders (e.g., local communities, non-governmental organisations and the government, etc.) (Ayuso et al., 2014, p. 423).

these theories explore the relationship between corporate governance and firms' performance from a different perspective. For instance, agency theorists assert that 'a key activity for boards is monitoring management on behalf of shareholders and that effective monitoring can improve firm performance by reducing agency costs' (Hillman and Dalziel, 2003, p. 383). Since non-executive directors are more independent as compared with executive directors, agency theory therefore predicts a positive relationship between such directors' representation and firms' performance. In contrast, stewardship theory argues that directors have a fiduciary duty to safeguard the interests of shareholders rather than maximising their own personal interests. Stewardship theory suggests that non-monetary rewards, such as recognition and the need for achievement, not only empower the stewards but also help in maximising a firm's performance. All these theories predict a positive relationship between corporate governance mechanisms and firm performance. For example, the appointment of independent outside directors not only enhances an organisation's links to its external resources (a resource dependence theory perspective), but it can also improve the monitoring capacity of outside directors (agency perspective). On the other hand, stakeholder theory takes into account the interests of all key corporate stakeholders, such as employees, banks, suppliers as well as those of the shareholders. This research is based on the primary assumptions of agency theory, and the three complementary theories (e.g., stewardship theory, resource dependence theory and stakeholder theory) are also used to establish a link between corporate governance mechanisms and firm performance. Based on the assumptions of these theories, the next section examines the empirical evidence on individual internal corporate governance mechanisms and firm performance.

2.4 The link between internal corporate governance mechanisms and firm performance

The above theoretical framework shows that internal corporate governance mechanisms, particularly the board of directors, play an important role in aligning the interests of owners and managers. Other internal corporate governance mechanisms, such as the ownership and debt structure and an appropriate compensation plan, can also reduce the agency costs of a firm (Jensen, 1993; Denis, 2001). Besides the traditional function of the board of directors to 'hire, fire and compensate the chief executive officer (CEO)' (Jensen, 1993, p. 862), the directors are also responsible to the owners for the overall performance of the firm. According to Zahra and Pearce (1989), the board of directors affects a firm's performance by assuming three important roles, which are: (a) the control or monitoring role, which is based on agency theory; (b) the service or stewardship role; and (c) the strategic or resource dependence role. A stakeholder theory assumes that, if the interests of all stakeholders are acknowledged, it will improve a company's relationship with key corporate stakeholders, both inside and outside the organisation. Therefore, different board attributes such as board size, board composition and board structure can influence board performance (Zahra and Pearce, 1989; Yermack, 1996).

The empirical literature on board size, board composition, frequency of board meetings and other internal corporate governance mechanisms is discussed in the following sub-sections.

2.4.1 Board size

Board size is an important determinant of corporate governance that affects firm performance. The effectiveness of smaller and larger boards has been compared and debated in previous studies. For example, Lipton and Lorsch (1992, p. 67) suggest an optimal board size of eight to nine directors. According to Lipton and Lorsch (1992), when board size increases

beyond ten directors, it creates additional costs for the organisation in the form of slow decision making and poor coordination. Moreover, the directors of a small board are able to communicate freely their ideas – a process which can be very useful for the firm in setting a corporate strategy. The corporate governance codes do not prescribe any upper or lower limits on board size. It is entirely the responsibility of each company to appoint its board of directors, keeping in view the size, structure and operations of the organisation. Psychologists also suggest that any board size between eight and ten could be ideal in terms of coordination between board members and timely decision making. Moreover, larger boards may be subject to boardroom politics and reaching a consensus becomes more problematic (Tricker, 2012, p. 304). However, smaller boards are very effective as they can reach a consensus more easily in comparison with a large board with different opinions and ideas (Lipton and Lorsch, 1992, p. 65). Thus, the costs associated with a larger board outweigh the potential benefits that can be achieved by appropriate monitoring. Jensen (1993, p. 865) argues that a small board having seven or eight members can be easily controlled by the CEO in comparison with a larger board. Therefore, a small number of directors can effectively coordinate the board's activities in order to control the management. However, proponents of the resource dependence theory (e.g., Zahra and Pearce, 1989) argue that a large board provides a link between the organisation and its external resources. In addition, every director represents a diversity of skills, information and external linkages (Hillman et al., 2000). Therefore, larger boards with personal skills and external resources can be useful in improving organisational performance. Empirical evidence also shows that larger firms have larger boards to oversee the complex operations and cross-border trading of a large multinational firm (Beiner et al., 2006).

There are mixed empirical results on the relationship between board size and firm performance. For example, Yermack (1996) examines the relationship between board size and firm performance for a sample of 452 large US firms from 1984 to 1991. He documents a negative relationship between board size and firm performance and firm value.[13] Consistent with Jensen (1993), Yermack (1996, p. 194) argues that, as the board size increases, the communication and coordination becomes more difficult. Yermack compared the mean values of board size with the mean values of Tobin's Q. The findings show that, as the mean value for board size increases, Tobin's Q decreases and vice versa. However, Eisenberg et al. (1998) argue that the findings reported by Yermack (1996) would have been more useful if he had included small firms in his sample, since the agency problems in small and medium sized firms may not be similar to those of large firms. Therefore, Eisenberg et al. (1998) investigated the board size effect for 879 small and medium sized Finnish firms from 1992 to 1994. Consistent with Yermack (1996), Eisenberg et al. (1998) also find a negative relationship between larger board size and firm profitability. In the context of the 2007 financial crisis, Pathan and Faff (2013) reported a negative relationship between larger board size and firm performance for a sample of 300 US banks. They argue that increasing board size as a result of mergers and acquisitions to accommodate directors from subsidiaries may be sub-optimal. Such attempts would indirectly increase the existing board size of a firm, which may further increase the burden of unexpected operating costs in already turbulent economic times.

The board of directors is considered an important corporate governance mechanism across all corporate governance systems. De Andres et al. (2005) examine the impact of board

[13] According to Yermack (1996), the value of a firm is measured by Tobin's Q, while firm performance is measured by the following financial ratios: (a) sales to assets ratio; (b) return on assets; and (c) return on sales.

size for 450 firms across three countries from market-based systems[14] (UK, USA, and Canada) and seven countries from the relationship-based system (Germany, Belgium, Spain, France, Italy, the Netherlands, and Switzerland) for the year 1996. De Andres et al. (2005) report a significantly negative relationship between larger board size and firm performance across these two corporate governance systems. Similarly, using a large sample of 2,746 UK companies, Guest (2009) finds that larger board size is negatively related to firm profitability and valuation. These results are consistent with the findings reported by Yermack (1996) and Eisenberg et al. (1998).

In contrast, several studies have reported a significantly positive association between larger board size and firm performance. For instance, Kiel and Nicholson (2003) and Beiner et al. (2006) find a positive relationship between larger board size and firm performance[15] for a sample of Australian and Swiss firms respectively. In line with resource dependence theory, these findings suggest that larger boards provide a link between the organisation and its external environment.

The above discussion indicates that empirical evidence on board size and firm performance is inconclusive, which means that further research is needed. This study will further investigate this relationship in two different corporate governance systems, as will be outlined later.

[14] Refer to Section 2.5 for a detailed discussion on market-based systems and relationship-based systems.
[15] Consistent with prior literature, Kiel and Nicholson (2003) and Beiner et al. (2006) have also used Tobin's Q as a measure of firm performance.

2.4.2 Board structure

A number of recent studies (e.g., Davies, 2000; Hopt and Leyens, 2004; Jungmann, 2006; Hopt, 2011) has compared the effectiveness of two frequently used board structures: a unitary board structure in the UK and a two-tier board structure in Germany and other European countries. These studies have identified functional and structural differences between the UK and German board models. According to Davies (2000), the unitary board structure in the UK combines the strategy setting and monitoring function which is performed by the executive and non-executive directors respectively. On the other hand, these functions are separately performed by the management board and the supervisory board in a two-tier board system. In the UK, both the executive and non-executive directors are elected by the shareholders. The shareholders also have the powers to remove the directors from office.[16] However, *The UK Corporate Governance Code* (2010) (Financial Reporting Council, 2010a) also requires that at least half of the board of the FTSE 350 companies should consist of non-executive directors. Similarly, under Section A.4 of *The UK Corporate Governance Code* (2010) (Financial Reporting Council, 2010a, p. 11), the non-executive directors are required to 'scrutinise the performance of management in meeting agreed goals and objectives and monitor the reporting of performance'. In contrast with this, the supervisory board members in Germany are appointed by the shareholders and their responsibility is to advise and supervise the management board. Unlike the UK, where executive and non-executive directors are on the same board, the supervisory board members in Germany do not participate in the meetings of the management board. As a result, the supervisory board may not be able to provide guidance on strategic issues that may significantly affect corporate performance (Jungmann, 2006). In

[16] *Companies Act 2006* s 168 (1).

most countries, the corporate governance regulations require a greater representation of non-executive directors. In the UK, the proportion of non-executive directors has gradually increased from only three in the *Cadbury Report* (1992) to one third in the *Hampel Report* (1998). The recent *UK Corporate Governance Code* (2012) requires that at least one half of the board should consist of non-executive directors (Financial Reporting Council, 2012b).

Comparing the effectiveness of board structures in the UK and Germany, Davies (2000) argues that non-executive directors in a unitary board structure have easy access to information because the executive and non-executive directors are part of the same unitary board structure. In terms of information asymmetry, the unitary board structure is regarded as superior to the German two-tier board structure, because the flow of information from the management board to the supervisory board is lengthy and time consuming (Davies, 2000). In the context of the Netherlands, using a questionnaire-based survey method, Bezemer et al. (2014) examined the challenges faced by non-executive directors in a two-tier board system. These challenges include: (a) the relationship between individual directors in the management and supervisory boards; (b) information asymmetries between the two boards; and (c) the defensive behaviour of management board members in addressing critical questions asked by the non-executive directors.

Many studies (e.g., Hermalin and Weisbach, 1991; Yermack, 1996; De Andres et al., 2005) have examined the relationship between board structure (in terms of board composition) and a firm's performance. In these studies, board composition variable is defined by the ratio of non-executive directors to total board size of a firm. However, empirical studies on the relationship between board structure (in terms of board composition) and firm's performance

are inconclusive. For instance, Hermalin and Weisbach (1991) found no relationship between board composition and firm performance. On the other hand, Yermack (1996) finds a negative relationship between firm performance and board composition. In the context of the 2007 financial crisis, Pathan and Faff (2013) examined the relationship between board structure and firm performance for a sample of 300 commercial banks listed in the United States over the period 1997 and 2011. They argue that after the crisis, banks were forced to comply with the regulatory requirements regarding the appointment of non-executive directors, even if such appointments were sub-optimal for the organisation. Pathan and Faff (2013) reported a negative relationship between the percentage of non-executive directors and firm performance. Explaining the causes of that negative relationship, they argue that the labour market for truly independent and professional non-executive directors is limited and regulatory restrictions on non-executives from holding multiple directorships may also affect the supply of independent non-executive directors. In the context of the UK, Weir and Laing (2000) reported a negative relationship between the percentage of non-executive directors and the performance of firms.

Using a sample of 1,500 firms from Standard and Poor's composite stock index, Francis et al. (2012) found a negative relationship between non-executive directors and firm performance. Explaining the reasons for this negative relationship, Francis et al. (2012, p. 40) conclude that all non-executive directors may not be 'truly independent' as required by the corporate governance codes. This could affect their abilities to be effective monitors on behalf of shareholders. In another similar study, Erkens et al. (2012) examined 296 financial institutions from 30 countries during the 2007–2008 financial crisis. They found that firms with more non-executive directors on their boards suffered relatively more during the crisis period

and were subsequently bailed out by their governments. Other researchers also believe that the non-executive directors are ineffective and particularly that they did not fully understand the complex operations of an organisation (Tricker, 2012). In the light of these studies, it can be argued that the non-executive directors failed to understand and predict a firm's risk exposure before the financial crisis.

Other studies conducted in the context of the 2007 financial crisis have found a positive relationship between the percentage of non-executive directors and firm performance. For instance, Liu et al. (2012) examined the relationship between independent non-executive directors and firm performance for Chinese firms listed on the Shanghai and Shenzhen stock exchanges. They argue that the financial crisis provided an incentive for investors to monitor closely their investee companies. Furthermore, in a crisis period, both managers and large shareholders may expropriate a firm's resources and such activities negatively affect the stock prices; hence a greater role for independent non-executive directors may significantly reduce these expropriation problems in public listed companies.

Similarly, De Andres et al. (2005) did not find any significant relationship between the percentage of non-executive directors and firm performance for a sample of 450 companies from the Anglo-Saxon and Continental European corporate governance systems. In the context of Germany, Bermig and Frick (2010) examined the impact of board structure on the performance of 294 large and medium-sized German companies between 1997 and 2007. However, Bermig and Frick (2010) did not find any significant relationship between the percentage of non-executive directors and the performance of firms. These studies show that increasing the number of non-executive directors on boards does not necessarily improve

performance. The above discussion indicates that the empirical evidence on the relationship between board structure and firm performance is inconclusive. One reason for such inconclusive results could be that the empirical methods applied in prior research fail to control for endogeneity (Wintoki et al., 2012). Therefore, this study will also examine the impact of non-executive directors as well as executive directors on firm performance across different corporate governance systems.

2.4.3 Number of board meetings

Theoretically, from a monitoring and control perspective, board activity (measured by the frequency of board meetings) is another important internal corporate governance mechanism, which has implications for a firm's value (Vafeas, 1999). Lipton and Lorsch (1992) argue that the time spent by the board of directors could be considered as a resource provided to the organisation. In fact, corporate governance codes around the world also restrict the executive directors from holding multiple non-executive directorships in other listed companies so that they can allocate sufficient time to their own companies. From a stewardship theory perspective, it is the legal duty of executive and non-executive directors to perform their duties and act in the best interests of the shareholders. Jensen (1993) argues that non-executive directors spend limited time and they may not be able to challenge critically corporate strategy and such limited engagement with an organisation may undermine their expected role of monitoring and control. Vafeas (1999, p. 114) emphasises that firms can improve their internal control mechanisms by increasing their board activities (e.g., frequency of board meetings) and that this can be relatively less costly and more convenient than changing other internal governance attributes, such as changing the board composition, and ownership structure. Vafeas

(1999) argues that increasing board activities could be beneficial for shareholders in the form of setting corporate strategies and monitoring management. These benefits mitigate the potential costs associated with board meetings, such as directors' meeting fees and travel expenses, which is a relatively small percentage of the total operating costs of a large organisation. In his seminal work on the effectiveness of board meetings, Vafeas (1999) reported an inverse relationship between the frequency of board meetings and a firm's market valuation. He argues that capital markets may not necessarily reward increasing board activities. However, firms with frequent board meetings show a positive impact on their operating performance. On the other hand, for a sample of Forbes 500 firms operating between 1989 to 1995, Fich and Shivdasani (2006) reported a significantly negative relationship between the number of board meetings and the operating performance (ROA) of firms.

Brick and Chidambaran (2010) argue that a financial crisis triggers investors' and regulators' attention in the form of increased oversight and regulations. These external pressures significantly influence a firm's management to change its governance arrangements, for example increasing board activities (meetings), changing the size and membership of key corporate governance committees (audit, remuneration and nomination) and introducing new governance committees, such as risk management and internal control committees. Brick and Chidambaran (2010) find that pressures from investors and regulators have had a positive impact on the overall performance of a firm during the financial crisis period.

Empirical evidence on the relationship between board meetings and firm performance is inconclusive. This research re-examines the relationship between board meetings and firm performance for UK and German companies.

2.5 The effectiveness of corporate governance mechanisms in different corporate governance systems

Corporate governance mechanisms and corporate governance systems are clearly differentiated in the academic literature. Corporate governance mechanisms are the methods employed at the firm-level to solve corporate governance problems. On the other hand, a corporate governance system is defined as 'a more-or-less country specific framework of legal, institutional, and cultural factors shaping the pattern of influence that shareholders (or stakeholders) exert on managerial decision making' (Weimer and Pape, 1999, p. 152).

Franks and Mayer (1997) classify corporate governance systems into two types: the insider-dominated system and the outsider-dominated system. In the insider-dominated system, a small number of major shareholders controls listed companies. In contrast, large firms in the outsider-dominated system are owned by outside shareholders and controlled by managers. The first system is associated with countries in Continental Europe (such as Germany) and Japan, while the latter corporate governance system is associated with Anglo-Saxon countries (in particular, the USA, UK, etc.). The corporate governance system of the USA and UK is also considered as a market-based system. In a market-based system, corporate ownership is comparatively less concentrated. On the other hand, German and Japanese governance systems are categorised as relationship-based systems, having a concentrated ownership structure. In addition, the board structure also varies across these systems. For example, companies in a market-based system have a unitary board structure. On the other hand, companies in an insider-dominated system (in particular Germany, etc.) are required by law to have a two-tier board structure, which consists of a supervisory board and a management board (Franks and

Mayer, 1997). Recently, a study was conducted by Heidrick and Struggles (a professional services firm) about the prevailing board systems in Europe. The findings show that the UK is the only country in Europe that has a 100 per cent one-tier board system (Heidrick and Struggles, 2011). On the other hand, Germany and Austria have a 100 per cent two-tier board system, while the remaining European countries have adopted a mixed board structure.[17]

Corporate governance models around the world can be classified further into two broader categories: a rules-based approach, as in the USA, and a principles-based approach, as in the UK (Tricker, 2012, p. 184). There are significant differences between these two systems. For example, the *Sarbanes-Oxley Act* of 2002[18] requires all listed companies in the USA to comply fully with legislation and stock exchange requirements. Moreover, a rules-based approach to corporate governance does not provide any flexibility for non-compliance. For example, non-compliance with the *Sarbanes-Oxley Act* provisions in the USA can be very costly in terms of a company's de-listing and imposition of a wide range of penalties.

On the other hand, *The UK Corporate Governance Code*[19] is based on the principle of 'comply or explain' (Financial Reporting Council, 2010a, p. 4). According to the UK *Code*, every listed company in the UK has the choice of either complying with the *Code* recommendations or explaining in its annual reports why it has not complied with specific code provisions. Similarly, companies in Germany can also deviate from certain code provisions but they are required to disclose such deviations in their annual reports. However, it is mandatory

[17] 'The mixed system of two boards (a non-executive board and an executive board) meeting separately, but usually with the same chairman and chief executive officer (CEO) and some executives sit on non-executive board' (Heidrick and Struggles, 2011, p. 10).
[18] *The Sarbanes-Oxley Act 2002* s 3(1).
[19] Previously known as *The Combined Code.*

for companies in Germany to follow the two-tier board structure requirements under the relevant German law (Commission of the German Corporate Governance Code, 2010). Consequently, the German corporate governance system lies between self-regulation and state regulation and it can be categorised as 'self-regulation in the shadow of the law' (Hopt, 2011, p. 15). This implies that a principles-based approach in the UK and Germany relies on voluntary disclosures and more self-regulation rather than a strict regulatory compliance as under the rules-based approach in the USA.

Agency issues, such as the conflict of interest between owners and managers, are very common in a market-based system. In comparison, a typical owner-manager conflict is relatively uncommon in an insider-dominated system. For example, the close ties between owners and managers in an insider-dominated system (e.g., Germany) reduce the agency problems. Discussing the advantages and disadvantages of concentrated ownership, Shleifer and Vishny (1997, p. 758) observe that:

> 'Large investors represent their own interests, which need not coincide with the interests of other investors in the firm, or with the interests of employees and managers. In the process of using his control rights to maximise his own welfare, the large investor can therefore redistribute wealth – in both efficient and inefficient ways – from others'.

Research has suggested that different corporate governance mechanisms can be used in different governing systems in order to mitigate these agency issues. For instance, Franks and Mayer (1997) argue that both types of corporate governance systems employ different internal or external governance mechanisms (or a mix of both) to align the interests of managers and shareholders. Examples of such governance mechanisms include monitoring by non-executive

(outside) directors, pay for performance and a market for corporate control (e.g., takeover activities).

Comparative research on corporate governance provides different evidence about these two governance systems. Franks and Mayer (1997) show significant differences in the ownership structures and control across the UK, Germany and France. However, Shleifer and Vishny (1997) argue that corporate governance systems in the UK, USA, Germany and Japan incorporate the essential elements of a good governance system. Therefore, these systems are more effective than other corporate governance systems in the world (Shleifer and Vishny, 1997). Similarly, Kaplan (1997) compares executive compensation and corporate performance across the USA, Germany and Japan. He does not identify any clear differences between these three governance systems. However, Kaplan (1997) finds that managers in all three countries are likely to lose their jobs in response to poor corporate earnings' or stock performance. These findings are subject to criticisms because it is difficult for common shareholders to ascertain whether such poor corporate earnings' or stock performance arises as a result of good or bad managerial decision making (Denis, 2001, p. 196).

Following Kaplan (1997), Franks and Mayer (2001) studied whether corporate losses lead to high board turnover for a sample of 171 non-financial firms in Germany over the period 1989–1994. Consistent with Kaplan (1997), they conclude that management board turnover in Germany is higher following poor financial performance (losses) and vice versa. This shows that different corporate governance systems (e.g., the UK, the USA and Germany) adopt similar disciplinary mechanisms to monitor the board of directors of a poorly performing firm. Franks and Mayer (2001) argue that these losses arise as a result of poor corporate governance, such as

inappropriate monitoring and strategy setting. However, in practice, companies can sustain trade losses which cannot be directly associated with the monitoring and strategy setting function of the board of directors. On the other hand, Franks and Mayer (2001) did not find any significant relationship between board turnover and performance in firms with a highly concentrated ownership structure. Thus, these results provide evidence that concentrated ownership structure in Germany is used to avail of the 'private benefits of control'[20] rather than necessarily benefit overall shareholders' interest (Franks and Mayer, 2001, p. 943).

Another comparative study by Jungmann (2006) used board turnover and firm performance as a proxy for an effective governance mechanism for a sample of 25 companies listed on the London Stock Exchange and the Frankfurt Stock Exchange. Consistent with Kaplan (1997) and Franks and Mayer (2001), Jungmann (2006) has also reported a higher board turnover in the UK and Germany following poor financial performance. This implies that the corporate governance systems in the UK and Germany provide effective control mechanisms to resolve the agency problem. Hence there is no theoretical and empirical justification available to demonstrate that either one of the board models is superior to other (Jungmann, 2006, p. 426; Hopt, 2011).

A recent study (Goergen, 2007) on the effectiveness of different corporate governance systems around the world also highlights the scarcity of research on the stakeholder-based system of corporate governance. Criticising prior comparative corporate governance research, Goergen (2007, p. 7) argues that corporate governance mechanisms should not be investigated

[20] Private benefits are those benefits which are received by large shareholders, but such benefits are not equally shared by other common stockholders, for instance, the approval of excessive perquisites for the directors representing large shareholders (Denis, 2001).

in isolation because each corporate governance mechanism either 'substitutes' or 'complements' the other. This shows that researchers need to adopt an integrated approach towards corporate governance, which takes into account the different aspects of internal corporate governance mechanisms (e.g., ownership structure, compliance, board attributes, etc.). The next section discusses the impact of ownership structure of firm performance.

2.6 The impact of ownership structure on firm performance

The previous section discussed the differences in the ownership structure of companies across the UK and Germany. This section discusses the empirical literature on blockholders' ownership and the performance of firms. Table 2.2 summarises the studies discussed in this section. The UK companies have a dispersed ownership system and ownership is diffused among individuals, institutional investors and corporations (refer to Appendix A and Appendix E). On the other hand, German companies have a highly concentrated ownership structure and the majority of the German companies are owned by large shareholders, such as founding families, corporations and financial institutions (Thomsen et al., 2006).[21] In fact, the whole idea of corporate governance is developed based on the separation of ownership and control in listed companies. Section 2.3 explains the theoretical framework of corporate governance research through the lens of agency theory and other supplementary theories. Jensen and Meckling (1976) argue that a dispersed ownership structure provides an opportunity for managers to expropriate a firm's resources and thereby results in greater agency costs. On the other hand, managers in a concentrated ownership structure, with fewer large shareholders (blockholders), are less likely to expropriate a firm's resources as they are closely monitored by the large

[21] Appendix D provides further details about the percentage of shares owned by German corporations in the sample German companies.

shareholders, who have greater financial incentives to monitor closely the managers. According to Thomsen et al. (2006), a blockholder is a shareholder who owns at least five per cent shares in the ordinary shares of a company. Empirical studies on ownership structure and firm performance are based on the theoretical proposition that a concentrated ownership system is a superior control mechanism as compared with a dispersed ownership system. Shleifer and Vishny (1986) argue that large corporations with dispersed shareholders have free-rider issues.[22] Shleifer and Vishny (1986) suggest that a concentrated ownership structure can partly mitigate the free-rider issue in large corporations. The nature and intensity of agency conflict also differ in a concentrated ownership system. For example, in a concentrated ownership system, a conflict of interest may not exist between shareholders and managers, although large shareholders may exploit the rights of minority shareholders, which could have negative implications for a firm's financial performance (Franks and Mayer, 1997).

In the context of the USA, Agrawal and Knoeber (1996) examined the relationship between ownership structure and the financial performance of 400 large firms. Agrawal and Knoeber (1996) argue that various corporate governance and control mechanisms exist to monitor a firm's managers and corporate governance researchers need to take into account the impact of all different corporate governance mechanisms, such as the role of: (a) institutional shareholders; (b) insider shareholdings by the directors and officers of a company; (c) the presence of non-executive directors on the board; and (d) the impact of gearing. Agrawal and Knoeber (1996, p. 394) further argue that the use of one corporate governance mechanism may simultaneously depend on the use of other corporate governance mechanisms. In other words,

[22] Small shareholders in a dispersed ownership structure have a low incentive to engage in active monitoring. In other words, small investors rely on the due diligence and monitoring of large shareholders.

examining the impact of internal corporate governance mechanisms in isolation could be misleading and may produce a 'spurious correlation' between corporate governance and the performance of firms. Agrawal and Knoeber (1996) did not find any significant relationship between external blockholders' ownership and the performance of firms.

Based on the assumptions of agency theory and using the theoretical proposition of Shleifer and Vishny (1986), empirical studies have examined the impact of ownership structure on a firm's operating and financial performance. However, empirical evidence on the relationship between ownership concentration and firm performance is mixed. For example, the findings reported in prior literature have shown one of three results: (i) a positive relationship (Shleifer and Vishny, 1986); (ii) a negative relationship (Lehmann and Weigand, 2000); or (iii) no relationship (Short and Keasey, 1999). Empirical studies on the effectiveness of external shareholdings are carried out either in the context of a market-based system (Leech and Leahy, 1991; Short and Keasey, 1999; O'Sullivan, 2000; Weir et al., 2002; O'Sullivan, 2009) or a relationship-based system (Gorton and Schmid, 2000; Lehmann and Weigand, 2000; Andres, 2008), while only a few comparative studies have been carried out across these two corporate governance systems (e.g., Fidrmuc et al., 2006; Thomsen et al., 2006).

Using ownership concentration data for a sample of 587 companies from a market-based system and 276 companies from a relationship-based system for the period 1990–1998, Thomsen et al. (2006) examined the influence of external blockholders in the market- and control-based corporate governance systems. Thomsen et al. (2006) used an aggregate measure of ownership concentration, which is the fraction of 'closely held shares' held by : (i) owners who hold more than five per cent; (ii) officers, directors and families; (iii) corporations; and (iv)

shares held in trust. For the UK and US firms, the findings show no significant relationship between blockholders' ownership and the performance of firms. For companies in the relationship-based system, Thomsen et al. (2006), reported a negative relationship between blockholders' ownership and firm performance and valuation. The negative relationship between blockholders' ownership and firm performance confirms the presence of a conflict of interest between minority shareholders and majority shareholders in a relationship-based system of corporate governance.

Leech and Leahy (1991) examined the relationship between ownership structure and the performance of firms for a sample of 473 large UK firms listed between 1983 and 1985. Using ownership concentration ratio and further classification of external blockholders based on their voting powers and control, Leech and Leahy (1991) found a significantly positive relationship between the level of external blockholdings and the performance of firms (as measured by the return on equity, return on sales and the market value of equity). Leech and Leahy (1991) argue that the relationship between ownership structure and firm performance also depends on which measure of ownership concentration has been used by the researchers. For example, some previous studies have used ownership concentration ratios as a simple representative measure of external blockholding (Thomsen et al., 2006), while other studies have classified external blockholders into institutional and non-institutional blockholders (Short and Keasey, 1999).

In the context of the UK, Short and Keasey (1999) examined the impact of ownership structure on the performance of firms for a sample of 225 UK listed firms for the period 1988–1992. The ownership structure variable measures the percentage of shares held by internal and external blockholders. The external blockholders measure represents those external

shareholders who own at least five per cent of the ordinary shares of a company (both institutional and non-institutional blockholders). The accounting-based measure of firm performance included return on shareholders' equity (RSE) and the market-based measure of firm performance was measured by the market to book value of equity. Short and Keasey (1999) find a non-linear relationship between managerial ownership and the performance of firms. The findings also show a significantly positive impact of non-institutional shareholders' ownership on the performance of UK firms. They argue that, as the equity ownership of managers increases, managers become entrenched (pursue personal interests) at a high level of managerial ownership and it negatively affects shareholders' return. Short and Keasey (1999, p. 99) find that when managerial ownership increases above 12 per cent, the entrenchment effects outweigh the alignment effect of managerial remuneration. Short and Keasey (1999) warn that the relationship between managerial ownership and firm performance may suffer from endogeneity and the causality may run in the reverse direction. In other words, firms with better operating and financial performance may award more equity shares to their directors. In the context of the UK, Mura (2007) examined the impact of ownership structure and board composition on the performance of 1,100 non-financial firms listed in the UK. The findings show that institutional and non-institutional blockholders' ownership has a significantly negative impact on the market valuation of firms.

Unlike traditional governance-performance studies, researchers have also examined the impact of ownership concentration on other corporate governance mechanisms. For example, O'Sullivan (2000) examined the impact of board composition and ownership concentration on the quality of auditing practices for a sample of 402 UK listed companies. The ownership

concentration measure represents the percentage of shares owned by executives and non-executive directors and external blockholders, such as financial institutions and non-financial institutions. However, O'Sullivan (2000) did not report any significant relationship between external blockholdings and the quality of audit practices, as measured by the fees paid to the external auditing firms. In another similar study, O'Sullivan (2009) examined whether the influence of external blockholders restrict CEOs from holding multiple non-executive directorships in other listed companies. For a sample of 387 large UK companies and using an aggregate measure of ownership concentration (external blockholdings), O'Sullivan (2009) finds that external blockholders exert significant influence in monitoring a firm's management and CEOs are less likely to hold additional non-executive directorships in firms with highly concentrated ownership structures.

For Germany, Gorton and Schmid (2000) examined the impact of external blockholders on the performance of 365 German firms for the period 1975-1986. The impact was separately examined for banks and non-bank blockholders. Gorton and Schmid (2000) argue that German banks exercise significant influence in the German corporate governance system. Similarly, blockholders are so influential that their presence minimises the need for external corporate governance mechanisms, such as the market for corporate control (mergers and acquisitions). This could be one of the reasons for very low levels of takeover activities observed in a relationship-based corporate governance system as compared with a market-based corporate governance system (Gorton and Schmid, 2000). Gorton and Schmid (2000) find a positive relationship between equity stakes of financial institutions and the performance of firms. Gorton and Schmid (2000) argue that non-bank blockholders may behave differently when their equity

stake is low and they are more likely to expropriate a firm's resources (also known as the private benefits of control).

In a similar study, Lehmann and Weigand (2000) examined the relationship between ownership concentration and the performance of firms for a sample of 361 German firms for the period 1991–1996. The findings show that ownership concentration is significantly negatively related with the profitability of firms. A negative relationship was reported for firms that were owned by individuals (families) and other external shareholders. However, for those firms having financial institutions as their major shareholders, Lehmann and Weigand (2000) found a positive relationship between ownership concentration and the performance of firms. This shows that financial institutions play a crucial role in minimising the agency costs, particularly in the context of the German bank-based system of corporate governance.

Besides the significant influence exercised by financial institutions and non-financial institutions, individuals and families also own a majority of the shares in the German companies (Goergen, 2007; Goergen et al., 2008). Andres (2008) examined the relationship between the percentage of shares owned by founding families and the performance of 275 German firms listed between 1998 and 2004. The findings show that family-owned firms perform well as compared to companies with other external controlling shareholders and companies with dispersed ownership. Contrary to the findings reported by Lehmann and Weigand (2000), Andres (2008) finds that non-institutional blockholders successfully manage the conflict of interests between owners and managers, as well as between majority shareholders and minority shareholders.

Empirical studies have also examined how dispersed multiple blockholders[23] affect the performance of firms. For instance, Konijn et al. (2011) examined the relationship between multiple blockholders and firm valuation for a sample of 744 firms listed in the USA between 1996 and 2001. The findings show a negative relationship between blockholders' dispersion and firm valuation. The findings also show that dispersed blockholders with a low equity stake may be unable to challenge effectively the powers of large blockholders who own a significant percentage of the equity of a company (Konijn et al., 2011, p. 1339).

Relatively few international comparative studies have been carried out to examine the impact of external shareholdings on the performance of firms. Gugler et al. (2008) compared the impact of ownership concentration for a sample of 1,560 firms from Anglo-Saxon countries (including the USA, UK, Australia, New Zealand and Ireland) and 1,730 firms from Continental European countries (including Germany). The findings show that institutional shareholdings positively affect a firm's performance in the USA, while, in Continental Europe and other Anglo-Saxon countries, the external ownership by financial institutions is negatively related with the performance of firms. Explaining the negative impact of financial institutions' ownership, Gugler et al. (2008, p. 700) argue that financial institutions' ownership may create agency problems in the following way:

> 'Many banks have M&A departments and earn substantial fees advising clients about mergers. Such banks have an interest in seeing the firms they control undertake mergers, even when the mergers are not necessarily in the interest of the merging companies' stockholders.'

[23] Multiple blockholders include shares held by a number of different blockholders, namely: (i) outside blockholders; (ii) employee stock ownership plans (ESOPs); (iii) officers; (iv) directors; and (v) affiliated entities. A single blockholder with large equity stakes may behave differently as compared with multiple blockholders with low equity stakes in the ownership of a company (Konijn et al., 2011).

Mixed empirical evidence on the relationship between ownership structure and firm performance raises questions about the methodology as well as the measures of ownership concentration that have been used in prior empirical studies. One reason for the mixed results could be that these prior studies have used different measures of ownership concentration, such as (a) ownership concentration ratios/aggregate percentage of external shareholdings (Thomsen et al., 2006); (b) the presence of a single blockholder with a significant shares ownership (Lehmann and Weigand, 2000); and (c) the presence of multiple blockholders (individuals, institutional investors, corporations) (O'Sullivan, 2000; Gorton and Schmid, 2000; Fidrmuc et al., 2006). A second reason for the inconclusive evidence in prior research (Leech and Leahy, 1991; Agrawal and Knoeber, 1996; Gorton and Schmid, 2000; Lehmann and Weigand, 2000; Andres, 2008; Konijn et al., 2011) could be the use of econometric techniques (such as the ordinary least squares regressions and the fixed-effects model), which do not fully control for the endogeneity problems. The methodology chapter further explains how the method used in this study controls for different kinds of endogeneity issues. Owing to this inconclusive relationship between external blockholdings and the performance of firms, this study will examine the relationship between external shareholdings and the performance of firms for a sample of UK and German firms. The next section discusses the implications of different legal systems for the performance of firms.

2.7 The impact of different legal systems on firm performance

A country's legal system is an important corporate governance mechanism which affects a firm's performance (Jensen, 1993). Legal systems around the world are classified into two major categories: (a) the common law system, as in England and Anglo-Saxon countries; and

(b) the civil law system, as in France, Germany and Scandinavian countries (La Porta et al., 1998). Corporate laws originating from these legal systems provide different kinds of protection to investors. For example, La Porta et al. (1998) examine the level of investor protection and the quality and enforcement of legal rules in 49 countries with different legal regimes. They find that common law countries provide the strongest protections for shareholders and creditors; French civil law countries give the weakest protections for investors; and German and Scandinavian civil law protection falls between common law and the French civil law system.

Aggarwal et al. (2010) argue that both internal corporate governance mechanisms and country-level corporate governance mechanisms, such as law, institutions and cultures, affect the overall governance of a firm. A brief history of corporate governance reforms in the UK and Germany is discussed in the following section to shed light on this.

2.8 The development of corporate governance codes in the UK and Germany

2.8.1 The UK Corporate Governance Code

In the late 1990s, a number of corporate scandals, such as the collapse of Polly Peck and the Maxwell Corporation, raised serious concerns about the protection of shareholders' interests in the UK. As a result, both local and foreign investors were forced to leave the capital market. In response to investors' dissatisfaction, regulators such as the Financial Reporting Council and the London Stock Exchange jointly established a Committee on the Financial Aspects of Corporate Governance in May 1991 under the leadership of Sir Adrian Cadbury. The Cadbury Committee produced a code of best practice which was enforced by the London Stock Exchange as a listing requirement for companies reporting after June 1993. The recommendations of the *Cadbury Report* (1992) mainly addressed the issues relating to the

company board of directors, auditors and its shareholders. In order to establish an appropriate level of control over company management, the *Cadbury Report* recommended that the roles of chief executive and chairman should not be fulfilled by one person. The *Report* also called for at least three non-executive directors to be appointed to the board who were required to be fully independent from the management (Cadbury, 1992). The *Report* required each listed company in the UK to establish three major board committees, including audit, remuneration and a nomination committee.

Following the *Cadbury Report*, the Greenbury Committee was formed in 1995 to look into the issue of excessive executive remuneration. The *Greenbury Report* (1995) recommended performance-based remuneration for directors with an appropriate disclosure of remuneration policies in the annual reports of listed companies. The *Report* also required companies to disclose directors' remuneration on an individual basis. In order to ensure transparency in the remuneration system of UK listed companies, the Greenbury Committee proposed that the remuneration committee should be comprised of only independent non-executive directors.

The *Cadbury Report* and the *Greenbury Report* proposed to conduct a review of these *Codes* after a few years of their implementation. In order to review the recommendations proposed in earlier reports, the Hampel Committee was established in 1998, under the leadership of Sir Ronald Hampel. The *Hampel Report* (1998) consolidated the recommendations of the previous two committees into a *Combined Code* which was issued in June 1998 (Financial Reporting Council, 1998). The *Combined Code* addressed all concerns identified in earlier reports and became the basis of good corporate governance principles and practices in the UK. The *Combined Code* (provisions D.2.1 and D.2.2) required that directors

should be responsible for undertaking an overview of the internal control systems in their organisations. In 1995, one of the major UK banks (Barings Bank) collapsed, as a result of its poor internal control system and risk management practices (Solomon, 2007, p. 58). This further attracted regulators' attention and the Turnbull Committee was established to strengthen internal control and risk management practices in the UK listed companies. The *Turnbull Report* (1999) later recommended guidelines for effective internal control systems in UK listed companies. The *Report* required each listed company in the UK to disclose fully in its annual report a review of the internal control system and risk management strategies.

Regulators in the UK promptly responded with different corporate governance reforms after the collapse of Enron and WorldCom in the USA. For instance, the *Higgs Report* (2003) identified a need for a more effective role to be taken by non-executive directors in protecting the interests of shareholders. The *Report* also recommended changes to the *Combined Code* by increasing the proportion and role of non-executive directors from one third to one half of the board. The *Report* also restricted the executive directors from holding more than one non-executive directorship in any of the FTSE 100 constituent firms. The *Report* also proposed that each listed company should appoint a senior non-executive director, who should be responsible for directly communicating with the shareholders, particularly the institutional shareholders. The *Tyson Report* (2003) provided guidelines on the recruitment and development of non-executive directors. The *Report* found that greater board diversity in terms of non-executive directors' backgrounds, education, and experience enhanced the effectiveness of the board. Following the collapse of Arthur Andersen (one of the world's leading accounting firms), regulators and investors raised concerns about the roles and responsibilities of companies'

external auditors. In response, the Financial Reporting Council in the UK established the Smith Committee to develop guidelines for audit committees. The *Smith Report* (2003) proposed strengthening the role of internal audit and audit committees so that the auditors could independently monitor the integrity of financial statements. The *Report* proposed that the audit committee should be responsible for recommending the appointment of external auditors. The *Smith Report* (2003) emphasised that all members of the audit committee should be independent non-executive directors, with at least one member having relevant experience in accounting and finance. The *Report* required listed companies to disclose fully the audit committee report in their annual reports.

In July 2003, the Financial Reporting Council revised the *Combined Code on Corporate Governance* (Financial Reporting Council, 2003). Since then the *Combined Code* has been revised in 2006 and 2008 respectively (Financial Reporting Council, 2006; Financial Reporting Council, 2008). The Combined *Code* has now been renamed as *The UK Corporate Governance Code* and compliance with the *Code* is now a listing requirement for FTSE 350 companies trading on the London Stock Exchange.

After the 2007 financial crisis, the UK government commissioned an independent review of the corporate governance practices (including board effectiveness, board remuneration, risk management and audit related matters) in the banking sector, under the chairmanship of David Walker. The *Walker Review* (2009) recommended the establishment and empowerment of firm-level risk management committees, to be chaired by independent non-executive directors. The *Review* also emphasised that each listed company should be required to

disclose fully its business model in the annual report. The *Walker Review* also called for a separate corporate governance code for UK institutional shareholders.

In response to the recommendations of the *Walker Review*, *The UK Stewardship Code* was issued in July 2010 (Financial Reporting Council, 2010b), which aimed actively to engage institutional investors in the governance process of their investee companies. The *Code* requires institutional investors in the UK to disclose on a 'comply or explain' basis that how they will discharge their stewardship responsibilities.[24] A revised version of *The UK Stewardship Code* was issued in September 2012 (Financial Reporting Council, 2012a).

The UK Corporate Governance Code (2012) emphasises that each listed company should provide convincing explanations when they opt to explain any deviation from any provision of the *Code* (Financial Reporting Council, 2012b). The *Code* also recommends that every listed company should publish its policy on board diversity in its annual reports.

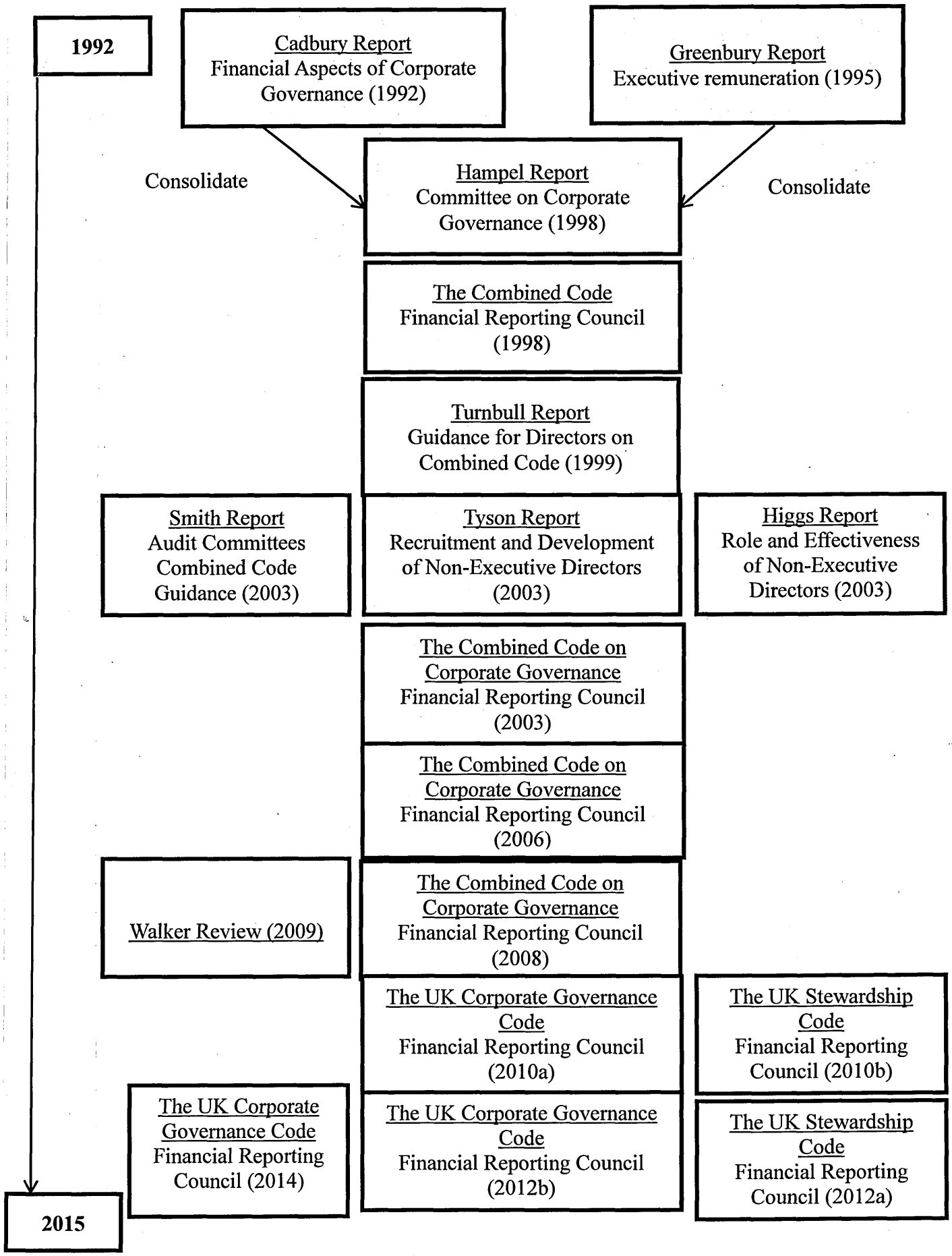
The latest version of *The UK Corporate Governance Code* (2014) was published in September 2014 (Financial Reporting Council, 2014). The *Code* includes specific guidelines on risk management and internal control systems. For instance, provision C.2.1 of *The UK Corporate Governance Code* (2014) requires that directors should disclose the risk assessment frameworks of their companies in the annual reports and they are also required to report how the potential risks faced by a company are mitigated or managed (Financial Reporting Council, 2014). Provision C.2.2 of *The UK Corporate Governance Code* (2014) further emphasises that directors have to report an assurance to the shareholders that the business will continue its

[24] These responsibilities include monitoring and engaging investee companies in areas relating to: (a) corporate strategy; (b) performance; (c) risk; (d) capital structure; and (e) corporate governance, as well as corporate culture and remuneration (Financial Reporting Council, 2010b, p. 1).

operations on a going-concern basis and will be able to meet its liabilities when they are due over the assessment period (Financial Reporting Council, 2014).

The Financial Reporting Council in the UK regularly engages in consultations with various stakeholders (companies, auditors and investor communities), aiming to improve corporate governance practices in the UK. Figure 2.1 below summarises corporate governance developments in the UK over the period 1992–2015.

Figure 2.1 The development of Corporate Governance Codes in the UK



Source: Adapted from Taylor (2004) with recent updates

2.8.2 The German Corporate Governance Code

Unlike the USA and the UK, where corporate laws and corporate governance codes included significant protection for investors, German regulators and policy makers continued to neglect the protection of shareholders until the late 1990s (Cromme, 2005). A large number of German companies was owned and controlled by a few financial institutions (Franks and Mayer, 2001). Until the 1990s, the German banks exercised significant influence in the German corporate governance system and German firms were highly dependent on commercial banks (Gorton and Schmid, 2000). Agarwal and Elston (2001) identify three reasons for this significant influence of German commercial banks, which include: (i) the provision of loan facilities to German firms; (ii) representation on a firm's supervisory board; and (iii) exercise of proxy voting rights by German banks. However, this greater influence exercised by such financial institutions resulted in an inadequate focus on shareholder interests (Goncharov et al., 2006, p. 432). In addition, German companies listed on foreign stock exchanges were also required to fulfil the listing requirements in such countries (Baums, 2003, p. 181). German companies, particularly in the iron and steel industry, faced significant economic problems in the late 1990s. Both local and foreign investors raised concerns over the inadequate monitoring role of the German supervisory boards (Du Plessis et al., 2012, p. 16). Furthermore, the development of the *Cadbury Report* (1992) in the UK could also be considered a driving force for various corporate governance reforms around the world. In response to growing local and international pressures calling for additional corporate governance reforms, the Baums Commission on Corporate Governance, Corporate Management and Reform of German law was established in May 2000, under the leadership of Professor Baums. The *Baums Commission Report* (2000) recommended that a separate commission should be set up to

develop a German corporate governance code (Commission of the German Corporate Governance Code, 2000). On the recommendations of the Baums Commission, the Federal Ministry of Justice established the Cromme Commission in September 2001 under the chairmanship of Gerhard Cromme. As a result, the first German *Corporate Governance Code* was published in February 2002 and came into force in July 2002 (Commission of the German Corporate Governance Code, 2002). The *Code* has addressed all previous criticisms by clearly defining shareholder rights, requiring cooperation between management board and supervisory board and defining the role of financial statement auditors (Cromme, 2005).

In order to promote a corporate culture of self-regulation, the German *Corporate Governance Code* is not legally binding for listed companies (Commission of the German Corporate Governance Code, 2001). In other words, it is based on the principle of 'comply or explain'. The general objective of the German *Corporate Governance Code* is to enhance local and foreign investors' confidence by ensuring transparency and investor protection in the German corporate governance system (Commission of the German Corporate Governance Code, 2001).

The Commission of the German Corporate Governance Code is responsible for regularly reviewing German corporate governance. Since then, the *Code* has been amended each year with a first amendment in May 2003 and the last amendment in May 2012 respectively (Commission of the German Corporate Governance Code, 2012a). Changes are incorporated in the provisions dealing with the appointment of management board and supervisory board members and their compensation. In 2009 the amended *Code* emphasised the improvement of diversity on the supervisory boards and management boards of German listed

companies. Currently, there are many challenges for the Commission of the German Corporate Governance Code. First, the Commission of the German Corporate Governance Code has to improve the functions, efficiency and professionalism of the German supervisory boards and to make sure that the supervisory boards remain truly independent like their non-executive counterparts in the Anglo-Saxon countries (Du Plessis et al., 2012). Second, the *German Corporate Governance Code* includes a few controversial and unpopular provisions that have been constantly violated by the majority of listed companies (Bebenroth, 2005, cited in Aguilera and Cuervo-Cazurra, 2009, p. 384). For example, the *Code* requires that directors' remuneration should be disclosed on an individual basis (divided into fixed and variable components), while the Stock Exchange Admission Regulations in Germany require each company to disclose its board remuneration on an aggregate basis (Goergen et al., 2008, p. 190). Regarding any major changes in the German corporate governance model, Du Plessis et al. (2012, p. 39) conclude that 'one thing is sure; there is no sign of Germany moving away from a two-tier board system'.

The above discussion indicates that there are key differences across the UK and Germany, particularly in terms of code formation and developments. However, corporate governance reforms in both countries have been driven by a number of internal and external forces. For instance, Lutz et al. (2011, p. 315) argue that the UK corporate governance movement 'largely reflects the demands of institutional investors for stricter standards. In contrast, members of the traditional German "stakeholder coalition" pushed for a code that was intended to be more of marketing than a regulatory instrument'. The next section reviews the empirical literature on compliance with the corporate governance codes and firm performance.

2.9 Compliance with the corporate governance codes and firm performance

Irrespective of the governance systems in different locations, good corporate governance mechanisms are important in many ways. First, firms that practise good governance can access capital markets on better terms and borrow easily at a reduced market rate (La Porta et al., 1998; Aggarwal et al., 2010). Second, there could be a 'signalling effect' to the capital market, which provides assurance to prospective investors that the firm is well governed (Chhaochharia and Laeven, 2009, p. 406). Moreover, a global investor opinion survey showed that 15 per cent of European institutional investors were more concerned about firm corporate governance than a firm's financial issues (e.g., profit, growth potential). Similarly, 22 per cent of these investors were willing to pay an average premium of 19 per cent for well governed companies as opposed to poorly governed companies (Mckinsey and Company, 2002). Studies conducted in the context of the 1997–1998 East Asian financial crisis (Mitton, 2002) and the recent 2007 financial crisis (Kirkpatrick, 2009) also find a positive relationship between corporate governance mechanisms and a firm's performance during these extraordinary times. Bae et al. (2012) argue that firms with poor governance practices become exposed to the capital markets and increasing a firm's risk exposure in a crisis period may not necessarily be appreciated by the capital markets. Therefore, corporate governance issues need more attention in a period of economic crisis.

Empirical research on corporate governance mechanisms and performance shows a positive relationship between good governance and firm operating and financial performance (Core et al., 1999), and higher firm valuation (e.g., Yermack, 1996; Gompers et al., 2003). Most of these studies examine firm-level corporate governance in a specific country and find that

cross-firm differences in governance have a significant effect on firm performance and valuation.

Some previous studies (e.g., Murphy, 1985; Hermalin and Weisbach, 1991; Yermack, 1996) have examined the impact of individual corporate governance mechanisms in isolation. These studies have separately analysed the impact of board size, board composition and executive compensation on firm performance. However, the financial performance of a firm may be affected by a broad range of corporate governance mechanisms. Therefore, instead of looking at one single individual corporate governance mechanism (e.g., board size, board composition, executive compensation), researchers have frequently used a broad corporate governance index. A corporate governance index (or a compliance index) is a proxy for corporate governance that incorporates different firm-specific internal corporate governance provisions. Love (2011) has identified three key elements from which a corporate governance index is constructed, such as: (a) corporate bye-laws and charter provisions (articles of association); (b) corporate governance rankings provided by Institutional Shareholder Services (ISS) and Credit Lyonnais Securities Asia (CLSA); and (c) surveys of firms. Table 2.2 summarises the studies discussed in this section.

Using 24 corporate governance provisions, Gompers et al. (2003) are among the pioneers who constructed a non-compliance corporate governance index for a sample of 1,500 US firms. For every firm that did not comply with a particular governance provision (such as shareholders' rights), Gompers et al. (2003) added one point to the governance index. This implies that a higher degree of non-compliance indicates a weak corporate governance structure of a firm. Gompers et al. (2003) find that firms with a lower governance index (indicating good

corporate governance) have higher equity returns and higher firm value. Thus the higher agency cost in poorly governed companies, as measured by a corporate governance index could be one of the reasons for low equity returns and earnings performance (Gompers et al., 2003).

Prior corporate governance studies in the UK have focused on the compliance behaviour of all listed companies in the UK (including domestic and foreign companies listed on the London Stock Exchange). In a recent study, Rejchrt and Higgs (2014) examined the compliance behaviour of 45 non-domestic companies listed on the London Stock Exchange. The findings show that non-domestic companies exhibit low level of compliance compared with the domestic UK companies. In particular, 24 per cent of the non-domestic companies from high power-distance cultures did not separate the roles of a CEO and Chairman. The findings indicate that national culture has a strong impact on the compliance behaviour of companies operating in the overseas markets.

Table 2.2 Summary of corporate governance-firm performance research in an international context

Study	Country/countries	Sample period	Types of governance data	Findings
Gompers et al. (2003)	USA	1990–1999	24 governance provisions from the Investor Responsibility Research Center (IRRC) data on corporate governance	The findings of this study indicate that well governed companies have higher stock returns, higher firm value (measured by Tobin's Q) and higher operating performance (as measured by net profit margin, return on equity and sales growth).
Drobetz et al. (2004)	Germany – 91 listed firms	2002	30 corporate governance provisions from *The German Corporate Governance Code*	This research has documented a positive relationship between corporate governance and firm value (measured by market-to-book ratio). Regarding the internal corporate governance mechanisms, the authors observe significant differences across the sample firms in Germany. However, contrary to prior research, this study has reported a negative correlation between corporate governance ratings and expected stock returns.
Klapper and Love (2004)	374 firms in 14 countries from the emerging markets	2000	57 governance provisions from the Credit Lyonnais Securities Asia (CLSA) governance index	This study has also reported a positive relationship between corporate governance mechanisms and firm financial performance such as the return on assets and Tobin's Q. In addition, corporate governance practices matter more in countries with weak legal protection for investors.

Table 2.2 continued

Study	Country/countries	Sample period	Types of governance data	Findings
Bauer et al. (2004)	FTSE Eurotop 300 firms	2000	Deminor Corporate Governance Rating (Deminor is a corporate governance rating agency and the ratings are available for FTSE Eurotop 300 firms over the period 2000–2001)	This study finds that good corporate governance leads to higher stock returns and higher firm value (Tobin's Q). Interestingly, Bauer et al. (2004) have documented a negative relationship with firm performance (as measured by return on equity, net profit margin, etc.).
Durnev and Kim (2005)	47 firms from 24 developed and emerging market countries	2000	57 corporate governance provisions from the Credit Lyonnais Securities Asia (CLSA) governance index and 91 provisions from Standard and Poor's (S&P) disclosure data	This study has documented a positive relationship between corporate governance and firm value. The results also show that a need for external financing motivates firms to practise better governance in weaker legal regimes.
Beiner et al. (2006)	Switzerland – 109 listed firms	2002	38 internal corporate governance provisions from the *Swiss Code of Best Practice for Corporate Governance*	This research also finds a positive association between internal corporate governance mechanisms and firm performance and valuation. The authors also report significantly positive relationships between board size and firm value (measured by Tobin's Q).
Chhaochharia and Laeven (2009)	2,300 firms from 23 developing countries	2003–2005	17 corporate governance provisions from Institutional Shareholder Services (ISS)	The authors concluded that capital markets reward those firms that are inclined to improve their corporate governance mechanisms beyond those required by law and practice in developing countries. Similarly, any improvements in corporate governance mechanisms are positively valued by investors.

Table 2.2 continued

Study	Country/countries	Sample period	Types of governance data	Findings
Goncharov et al. (2006)	Germany – 80 firms	2002–2003	Degree of compliance with the *German Corporate Governance Code*, board size and gearing	The findings show that fully compliant firms are priced at an average premium of 10 per cent higher than poorly governed (non-compliant) firms.
Bauwhede (2009)	FTSE Eurotop 300 firms	2000	Deminor Corporate Governance Ratings	This study has shown a positive relationship between compliance with the corporate governance codes and firm operating performance (as measured by return on assets). Bauwhede (2009) argues that the return on assets ratio is a superior measure of a firm's operating performance as compared with the return on equity.
Schultz et al. (2010)	Australia – 200 listed firms	2000–2007	Internal corporate governance variables related to ownership structure, executive compensation, board size and the percentage of non-executive directors	This research finds no causal relationship between internal corporate governance and firm performance (as measured by return on assets, total shareholder return, net profit margin and Tobin's Q).

Table 2.2 continued

Study	Country/countries	Sample period	Types of governance data	Findings
Wintoki et al. (2012)	USA – 6,000 firms	1991–2003	Internal corporate governance mechanisms, such as board size and the percentage of non-executive directors	Consistent with Schultz et al. (2010), this study did not find any causal relationship between internal corporate governance mechanisms and firm performance. Wintoki et al. (2012) argue that researchers should use more robust estimation technique, such as a generalised method of moments (GMM) model, which controls for different kinds of endogeneity problems.
Aggarwal et al. (2010)	23 developed countries	2005	44 corporate governance provisions from Institutional Shareholder Services (ISS)	This study has also reported a positive relationship between corporate governance and firm value. For both US and non-US firms, the authors have documented a significantly positive relationship between independent board committees, audit committees and firm value.

Table 2.2 continued

Study	Country/countries	Sample period	Types of governance data	Findings
Agrawal and Knoeber (1996)	USA-400 firms	1987	Insider shareholdings, institutional shareholdings.	Agrawal and Knoeber (1996) did not find any significant relationship between external blockholders' ownership and the performance of firms.
Leech and Leahy (1991)	473 large UK firms	1983–1985	Ownership concentration ratios	Leech and Leahy (1991) found a significantly positive relationship between the level of external blockholdings and its impact on the performance of firms (as measured by the return on equity, return on sales and the market value of equity).
Short and Keasey (1999)	225 UK listed firms	1988–1992	Insider shareholdings, external shareholdings	The findings also show a significantly positive impact of non-institutional shareholders' ownership on the performance of UK firms. Short and Keasey (1999) find a non-linear relationship between managerial ownership and the performance of firms.
Gorton and Schmid (2000)	365 German firms	1975–1986	Institutional blockholders and non-institutional blockholders	Gorton and Schmid (2000) find a positive relationship between equity stakes of financial institutions and the performance of firms.
Lehmann and Weigand (2000)	361 German firms	1991–1996	Institutional blockholders and non-institutional blockholders	The findings show that ownership concentration is significantly negatively related with the profitability of firms. A negative relationship was reported for firms that were owned by individuals (families) and other external shareholders.

Table 2.2 continued

Study	Country/countries	Sample period	Types of governance data	Findings
Andres (2008)	275 German firms	1998–2004	Institutional blockholders and non-institutional blockholders.	The findings show that firms with non-institutional blockholders perform well as compared to companies with other external controlling shareholders and companies with dispersed ownership.
Thomsen et al. (2006)	587 Anglo-Saxon companies and 276 companies from Continental Europe	1990–1998	Aggregate percentage of external shareholdings.	Thomsen et al. (2006) reported a negative relationship between blockholders' ownership and firm performance and valuation for firms operating in a relationship-based system of corporate governance.
Gugler et al. (2008)	1,560 firms from Anglo-Saxon countries and 1,730 firms from Continental European countries	1996–2000	Insider shareholdings, external shareholdings.	The findings show that institutional shareholdings positively affect a firm's performance in the USA, while in Continental Europe and other Anglo-Saxon countries, the external ownership by financial institutions is negatively related with the performance of firms.
Konijn et al. (2011)	USA–744 firms	1996–2001	Dispersed multiple blockholders.	The findings show a negative relationship between blockholders' dispersion and firm valuation.

Drobetz et al. (2004) investigate the impact of corporate governance on stock returns for a sample of 91 German listed companies. In order to construct a corporate governance index, they used 30 corporate governance provisions from *The German Corporate Governance Code*. These provisions are divided into five categories: (a) corporate governance commitments (firm-specific corporate governance guidelines); (b) shareholders' rights; (c) transparency; (d) management and supervisory board matters; and (e) auditing. Consistent with Gompers et al. (2003), Drobetz et al. (2004) have also reported a positive relationship between the quality of corporate governance and firm operating performance, stock returns and firm value. Following Drobetz et al. (2004), Goncharov et al. (2006) examine the impact of corporate governance compliance on the valuation of 80 large German firms. They find that a high degree of compliance with the corporate governance code is more highly valued by investors. They find, for instance, that well-governed companies[25] are priced at an average premium of 10 per cent higher than poorly governed companies. This implies that corporate governance codes are relevant to value and that a degree of non-compliance is not rewarded by capital markets.

Beiner et al. (2006) also constructed a comprehensive corporate governance index based on 38 internal corporate governance provisions from the Swiss *Code of Best Practice for Corporate Governance* (2002) (Swiss Business Federation, 2002). They added one point to the governance index if a firm complied with any of the 38 provisions of the *Code* and zero otherwise. Since a single corporate governance index may provide misleading results, Beiner et al. (2006), therefore, also examined the impact of other corporate governance variables such as: (a) board size; (b) outside directors; (c) shareholding by the largest shareholder; (d)

[25] A company with a higher degree of compliance with the corporate governance code is known as a 'well-governed company' (Goncharov et al., 2006, p. 434).

shareholdings by large outside block holders; and (e) leverage (gearing). They find a positive relationship between good corporate governance mechanisms and firm value. The findings of these studies show that capital markets play a disciplinary role in every corporate governance system.

Relatively few studies examine the impact of firm-level corporate governance in a cross-section of countries (e.g., Klapper and Love, 2004; Bauer et al., 2004; Durnev and Kim, 2005; Chhaochharia and Laeven, 2009; Aggarwal et al., 2010; Ammann et al., 2011). These studies examine the relationship between corporate governance and firm performance in 14 emerging markets; the European Union; 24 developed and emerging countries; and 23 developing countries respectively.

Klapper and Love (2004) analyse the association between corporate governance and firm performance for 374 firms across 14 emerging market countries. They create a governance index of 57 firm-level governance attributes, using those produced by Credit Lyonnais Securities Asia (CLSA)[26] in late 2000. Klapper and Love (2004) find that good governance is positively associated with market valuation and a firm's operating performance (e.g., return on assets), and that this relationship holds true across several emerging markets. Klapper and Love (2004, p. 713) argue that firms listed on foreign stock exchanges are more likely to adopt strong corporate governance mechanisms because they are subject to additional disclosure requirements. These findings are consistent with the results reported by Gompers et al. (2003), which find that companies in the United States with weak governance structures demonstrate a

[26] The CLSA corporate governance index uses a composite of 57 qualitative questions, covering seven broad categories: management discipline; transparency; independence; accountability; responsibility; fairness; and social awareness. A 'yes' answer to a particular question adds one point to the governance score.

relatively lower performance. Klapper and Love (2004) argue that governance practices matter more in countries with weak legal protection for investors, and so firm-level corporate governance has a higher impact on valuation in these countries. In other words, these findings indicate that investors assign a higher valuation to well-governed companies and vice versa. Therefore, investors take into account firm-level governance provisions when they are making corporate investment decisions.

For the European Union, Bauer et al. (2004) study the relationship between corporate governance mechanisms and stock returns, firm value and operating performance over the period 2000 and 2001. Bauer et al. (2004) used the Deminor Corporate Governance Ratings[27] for FTSE Eurotop 300 firms and classified these firms into two categories: good governance portfolio and bad governance portfolio. A higher score on the compliance index indicates an effective enforcement of the governance code and such firms are categorised as good governance companies and vice versa. Bauer et al. (2004) find that higher rating leads to higher stock returns and improves firm value. Contrary to Gompers et al. (2003), Bauer et al. (2004) find a negative relationship between governance standards and earnings-based performance ratios, for example, net profit margin and return on equity. Following the study by Bauer et al. (2004), only a few studies have been carried out to investigate comparative corporate governance practices across Europe, because the Deminor Corporate Governance Ratings are unavailable except for a specific time period (2000–2001). Following the approach and data used by Bauer et al. (2004) and using an alternative measure of a firm's operating performance (return on assets), Bauwhede (2009) re-examined the relationship between governance and

[27] Deminor is a corporate governance rating agency and the ratings are available for FTSE Eurotop 300 firms over the period 2000–2001.

performance for a sample of FTSE Eurotop 300 firms. Contrary to the negative relationship reported in the previous study, Bauwhede (2009) reported a positive relationship between compliance with the corporate governance codes and firm operating performance. He argues that the return on assets is a superior measure of a firm's performance and the income measure (operating income) used in the computation of return on assets is less affected by extraordinary items such as income from asset disposals (Bauwhede, 2009, p. 498). This suggests that corporate governance researchers should use an appropriate measure of a firm's operating performance (e.g., return on assets).

Recently, Essen et al. (2013) examined the impact of firm-level and country-level corporate governance regulations for a sample of 1,197 firms from 26 European countries. They found that the quality of the legal system and investor protection has a significantly positive impact on the performance of firms. Essen et al. (2013, p. 201) criticised the 'universality of good governance prescriptions' and they argued that the governance-performance relationship is context-specific, subject to institutional and environmental circumstance.

Similar to Klapper and Love (2004), Durnev and Kim (2005) have also used the corporate governance score compiled by Credit Lyonnais Securities Asia (CLSA) and Standard and Poor's (S&P) disclosure data[28] for a sample of 474 firms in 24 developed and emerging market countries. These scores are based on a range of firm-level governance characteristics which are: (a) disclosure; (b) board structure; (c) ownership structure; and (d) accountability. Durnev and Kim (2005) confirm a significant relationship between firm-level corporate

[28] Standard and Poor's (S&P) disclosure score is a sum of 91 provisions which are relevant to investors. The S&P disclosure score is a measure of transparency and a higher disclosure score indicates the highest quality of firm-level disclosure practices (Durnev and Kim, 2005, p. 1470).

governance and firm value in a cross-section of countries. These results not only validate the findings reported by Klapper and Love (2004) for 14 emerging market countries, but also provide evidence of a need for external financing-motivated firms to practise better governance in weaker legal regimes.

Other streams of research (Chhaochharia and Laeven, 2009; Aggarwal et al., 2010) compare the governance of US firms with that of non-US firms. These studies have used ISS (Institutional Shareholder Services') data on corporate governance attributes for a sample period of 2005 and 2003–2005, respectively. For instance, Chhaochharia and Laeven (2009) find that capital markets reward those companies that improve their governance attributes beyond those required by law and corporate practice in their home countries, and that these improvements in corporate governance attributes are positively correlated with firm value. On the other hand, Aggarwal et al. (2010) find that the value (as measured by Tobin's Q) of non-US firms decreases as their governance index value falls, as compared with the governance index of comparable US firms. Therefore, these results explain that 'country-level investor protection is a crucial determinant in the intensity of investment in internal governance of a firm' (Aggarwal et al., 2010, p. 3167).

The methods used in prior empirical corporate governance studies (as shown in Table 2.2) have been criticised for their inability to control for different kinds of endogeneity issues. Endogeneity refers to a situation when the causality (effect of governance on performance) may run in the opposite direction (from performance to governance) (Schultz et al., 2010, p. 146). These studies have adopted one of the following methods: (i) a simple ordinary least squares regression (OLS) model (Gompers et al., 2003; Bauer et al., 2004); or (ii) fixed-effects or

random-effects models (Chhaochharia and Laeven, 2009).[29] However, these methods fail to control for endogeneity problems and could provide a 'spurious correlation' between governance and performance (Schultz et al., 2010, p. 145). Schultz et al. (2010) investigated the relationship between internal corporate governance mechanisms and performance for a sample of 200 firms listed on the Australian Securities Exchange between 2000 and 2007. Using a generalised method of moments (GMM) estimation technique,[30] they found no causal relationship between corporate governance mechanisms and firm performance. In the context of the USA, Wintoki et al. (2012) re-examined the relationship between corporate governance mechanisms and firm performance for a sample of 6,000 firms between 1991 and 2003. Consistent with Schultz et al. (2010), they did not find any causal relationship between internal corporate governance mechanisms and firm performance. These studies suggest that endogeneity issues could be resolved if researchers use a more sophisticated econometric model, such as a generalised method of moments (GMM), which controls for different kinds of endogeneity problems.

The findings of previous studies being reported in Table 2.2 are subject to a number of constraints as regards their usefulness. First, some of these studies (e.g., Klapper and Love, 2004; Durnev and Kim, 2005) have used subjective[31] analysts' corporate governance scores, which are compiled by Credit Lyonnais Securities Asia (CLSA). These ratings have been criticised because 30 per cent of their questions represent analysts' opinions. Therefore, it is more likely that these rankings might include analysts' personal bias. Second, the indices used

[29] Section 3.5 presents an alternative approach to overcome the endogeneity problems and it critically discusses these methods.
[30] Refer to Section 3.5 for a detailed discussion of GMM.
[31] According to Credit Lyonnais Securities Asia, around 70 per cent of questions are based on objective facts, while the remaining questions represent analysts' opinions (Klapper and Love, 2004).

in previous studies have only taken into account the level of compliance or non-compliance with limited provisions of a corporate governance code. This study uses a more comprehensive corporate governance index ('comply or explain' index), which takes into account the level of compliance as well as the quality of explanations reported for non-compliance with a corporate governance code. The next section focuses on the corporate governance disclosure literature and discusses the importance of the 'explain' element of the 'comply or explain' principle.

2.10 Corporate governance disclosure across different corporate governance systems

The 'comply or explain' principle, which is the foundation of the UK corporate governance system, has been adopted in many countries around the world. The majority of EU countries, such as France, Germany, Spain and the Netherlands have also implemented the 'comply or explain' principle. The EU Commission Directive 2006/46/EC requires listed companies in member states to disclose annually in their corporate governance reports how they have applied the provisions of the national corporate governance codes (European Commission, 2006, p. 2). The EU Commission Directive 2006/46/EC further requires listed companies to disclose if any voluntary corporate governance practices are implemented beyond those required by the national corporate governance codes European Commission (2006, p. 4). Similarly, in Australia, the code is based on an 'if not, why not' principle, while the South African King Report is based on an 'apply or explain' principle (Du Plessis et al., 2012, p. 32).

Indeed, 'compliance' and the 'explanations for non-compliance' with corporate governance codes are claimed to be the two most important pillars of an effective corporate governance system (Hooghiemstra and Van Ees, 2011, p. 492). In the case of non-compliance, the 'comply or explain' principle provides the flexibility to justify any deviation from the

recommendations of the code of best practice. For instance, the *UK Corporate Governance Code* (Financial Reporting Council, 2012b, p. 4) states that 'deviation from a provision may be justified in particular circumstances if good governance can be achieved by other means'. The *UK Corporate Governance Code* (2012) further emphasises that:

> 'In their responses to explanations, shareholders should pay due regard to companies' individual circumstances and bear in mind, in particular, the size and complexity of the company and the nature of the risks and challenges it faces'.
>
> Financial Reporting Council (2012b, p. 4)

In fact, the emergence of the 'comply or explain' approach has created a dilemma for investors to assess what constitutes an acceptable explanation and what does not. A recent discussion paper by the Financial Reporting Council (2012c) outlines three elements of a convincing explanation, which should include: (a) the context and historical background of any deviation; (b) a clear rationale for the action taken; and (c) a description of the mitigating action to address the deviations from the *Code*. The *Code*[32] also recommends that companies should avoid using 'boiler-plate' statements[33] in their corporate governance reports. In general, the explanations for non-compliance should, however, meet the expectations of shareholders (Financial Reporting Council, 2012c), so that they can obtain a true and fair view of the governance affairs of a company. In the context of the EU, where corporate governance codes are largely based on the principle of 'comply or explain', the European Company Law and Corporate Governance Action Plan (European Commission, 2012) has raised a similar concern about the quality of explanations reported in the compliance statements of listed companies in

[32] Paragraph 6 of the Preface to the *UK Corporate Governance Code* 2012 (Financial Reporting Council, 2012b).
[33] Statements providing 'generic' or standard phrases, such as, 'in the best interest of the company'.....'we believe that'... 'in our opinion'... 'we consider that'.....and so on.

member states. The European Company Law and Corporate Governance Action Plan (2012, p. 6) noted that: 'companies either simply state that they had departed from a recommendation without any further explanation, or provide only a general or limited explanation'. The Financial Reporting Council (FRC) has warned that it would undertake another review in 2014 and if the quality of reported explanations should not improve, then the FRC would take the necessary steps to ensure compliance with the recommendations of the *Code* (Financial Reporting Council, 2013, p. 19). Recently, the EU Commission Directive 2014/208/EU issued further recommendations on the quality of corporate governance reporting ('comply or explain') and requires all national-level regulators in the member states to inform the Commission of their country-level arrangements by 13 April 2015 (European Commission, 2014). The EU Commission Directive 2014/208/EU warned that non-compliant companies should avoid using 'standard language' and should report context-specific explanations and the explanations reported for non-compliance should be accurate, comprehensive and the information should be disclosed in such a away so that the investors can easily access it (European Commission, 2014, p. 1). These recent regulatory initiatives highlight loopholes in the existing 'comply or explain' approach to corporate governance.

The Financial Reporting Council (FRC) has recently published a corporate governance and stewardship monitoring report titled *'Developments in Corporate Governance and Stewardship 2014'* and the new Chairman of the Financial Reporting Council, Sir Winfried Bischoff, has expressed concerns about the quality of reported explanations in the following way:

> 'There has been an increase in compliance with the UK Corporate Governance Code. While this remains encouraging I remind companies who have chosen not to comply that explanations should fully describe and explain their thinking'.
>
> (Financial Reporting Council, 2015, p. 1)

Empirical studies also cast doubt on the effectiveness of the 'comply or explain' system and call for a greater regulatory oversight and active engagement of shareholders in monitoring the quality of corporate governance disclosure (e.g., Andres and Theissen, 2008; Sergakis, 2013; Keay, 2014). Andres and Theissen (2008) examined the determinants of the quality of corporate governance disclosure for a sample of German companies. They found that companies with high level of executive remuneration and companies with a concentrated ownership structure tend to violate the executive remuneration requirements of *The German Corporate Governance Code.* Andres and Theissen (2008, p. 289) argue that non-compliant companies take advantage of the 'explain' option granted by the 'comply or explain' system and providing too much flexibility to the corporate sector would be similar to 'setting a fox to keep the geese'. The lack of shareholder engagement and the unwillingness of companies to improve the quality of their explanations are the two major challenges in the 'comply explain' regimes (Keay, 2014, p. 303). Keay (2014, p. 304) suggests stronger regulations in the form of 'soft sanctions', e.g. informally communicating non-compliance and engaging regularly with the non-compliant companies' boards along with the threat of potential actions, if remedial actions are not taken. Sergakis (2013) proposes a 'multi-player' regulatory oversight of the 'comply or explain' principle, which should define the monitoring roles for various corporate governance players, such as the national-level regulators, institutional investors and the auditors.

In the past 23 years, since the publication of the *Cadbury Report* (1992) and other voluntary corporate governance codes around the world, corporate governance researchers have mainly focused on the level of a firm's compliance with various codes in different national and international environments (refer to Section 2.8, Table 2.2). However, the empirical research on the level of compliance or non-compliance with the corporate governance codes, and its impact on a firm's performance is largely inconclusive. For example, the findings reported in prior literature have shown one of three results: (i) a strongly positive relationship (e.g., Klapper and Love, 2004; Durnev and Kim, 2005); (ii) a negative relationship (Bauer et al., 2004); or (iii) no causal relationship (Wintoki et al., 2012) between corporate governance mechanisms and a firm's performance. As a result of increasing pressures from the capital markets and the regulators (enforcing 'comply or explain' as a listing requirement) (MacNeil and Li, 2006), the level of compliance in the UK has significantly increased from 28 per cent in 2005 to 50 per cent over the period 2010–2012 (Grant Thornton, 2012, p. 8). This growing tendency towards compliance has now shifted the perspective of regulators and investors towards the quality of explanations reported for non-compliance with the recommended codes of best practice. This study attempts to examine the different types of explanations provided by firms when they do not comply with the requirements of the *Code*.

Theoretically, the explanations for non-compliance can be examined in the light of agency theory and empirical research on voluntary corporate disclosure. The 'comply or explain' mechanism is primarily based on the idea of voluntary corporate disclosure (Hooghiemstra, 2012, p. 6). Section 2.3 explains how corporate governance disclosure reduces the information asymmetries (differences in the available information) between managers and

shareholders. The benefits of better corporate governance disclosure include access to the capital markets on better terms and conditions and borrowing at a relatively lower interest rate (Klapper and Love, 2004). This provides an opportunity for firms to comply or otherwise disclose the reasons for non-compliance in their annual reports. Full compliance with the corporate governance codes could also give an assurance to external investors (banks) that a firm is likely to meet the requirements of the lenders (debt agreements) as well (Klapper and Love, 2004).

Only a few studies have focused on the 'explain' element of the 'comply or explain' principle. Table 2.3 provides a summary of recent corporate governance disclosure literature. Hooghiemstra and Van Ees (2011) and Seidl et al. (2012) are among the pioneers who have developed a taxonomy of the explanations and justifications reported by non-compliant firms. For a sample of 257 listed firms in the UK and Germany over the period 2006, Seidl et al. (2012) have divided the reported explanations for non-compliance into three broader categories which include:

> (1) Deficient justification – where a firm discloses non-compliance without giving reasons for the non-compliance;
> (2) Context-specific justification – where a non-compliant firm provides arguments that a provision of the *Code* cannot be implemented owing to the following reasons: (a) company size; (b) company structure; (c) international context of the company; (d) industry-specific reasons; (e) company's newness to code provision; or (f) other company-specific reasons; and
> (3) Principled justification – where a firm explains that a particular code provision is in conflict with social norms, values or laws and, therefore, such provision of a code cannot be implemented.

Seidl et al. (2012) find that 55.7 per cent of the sample firms in Germany and 41.3 per cent of firms in the UK provided deficient justification for their non-compliance with the

respective corporate governance codes. Similarly, 12.5 per cent of the sample firms in Germany and 6.5 per cent of the sample firms in the UK provided explanations that some of the code provisions could not be implemented as they were ineffective for their organisation. Hooghiemstra and Van Ees (2011) examine the quality of explanations reported by 126 firms in the Netherlands during 2005. The findings show that larger firms tend to avoid non-compliance as this could damage their corporate reputation. They further explain that compliant firms adopt largely similar provisions from a code, while non-compliant firms provide similar explanations to justify their position. Hooghiemstra and Van Ees (2011) conclude that reporting similar explanations for non-compliance could create doubts about the effectiveness of a principles-based approach to corporate governance. On the other hand, if a firm reports convincing explanations for non-compliance, it could provide positive signals to the capital markets that a firm has chosen superior alternative corporate governance mechanisms, and may also divert shareholders' attention away from non-compliance with the corporate governance code (Okhmatovskiy and David, 2012).

The level of corporate governance disclosure also varies across different legal systems. Bushman et al. (2004) examined country-level determinants of corporate governance disclosure for a sample of 46 countries, using Centre for International Financial Analysis and Research (CIFAR) disclosure data related to corporate governance.[34] They reported that corporate governance disclosure and transparency are linked with legal/judicial regimes – with higher corporate governance disclosure and transparency in common law countries and in countries with an active judicial system. In another similar study, Bauwhede and Willekens (2008)

[34] CIFAR assigns a score to each country based on the disclosure relating to the following categories: (a) range of shareholdings; (b) major shareholders; (c) list of board members and their affiliations; (d) directors' and officers' remuneration; and (e) directors' and employees' share ownership (Bushman et al., 2004, p. 245).

examined the firm-level determinants of corporate governance disclosure for a sample of FTSE Eurotop 300 companies for the year 2000. Using the Deminor Corporate Governance Rating[35] as a proxy for corporate governance disclosure, they found that the level of corporate governance disclosure is high in the common law countries (United Kingdom and Ireland), and low in non-common law countries (France, Germany and Scandinavia). However, the study by Bushman et al. (2004) and that by Bauwhede and Willekens (2008), which uses Deminor ratings on corporate governance disclosure and CIFAR disclosure data, did not take into account the disclosure information on the explanations provided for non-compliance with the corporate governance codes.

In the context of the UK, Arcot and Bruno (2011) classified the explanations for non-compliance with eight provisions[36] of *The Combined Code on Corporate Governance* (Financial Reporting Council, 1998), for a sample of FTSE 350 companies over the period 1998–2004. They divided the explanations for non-compliance into six different types, which are:

> (1) 'Type 0' – when there is no compliance statement in the corporate governance report or no explanation is reported in the compliance statement;
> (2) 'Type 1' – when the explanation for non-compliance is uninformative and it uses 'standard sentences';
> (3) 'Type 2' – when the explanations reported for non-compliance are ambiguous;

[35] Deminor is a corporate governance rating agency and the ratings are available for FTSE Eurotop 300 firms over the period 2000–2001. Deminor assigns a rating from 1 to 5 to each firm and a higher rating indicates a higher quality of corporate governance disclosure and vice versa. The Deminor corporate governance disclosure rating is developed using disclosure information on: (a) composition and function of the board and board committees; (b) board remuneration; (c) compliance with a national corporate governance code; (d) a company's share capital and stock options; (e) environmental, political and charitable information (Bauwhede and Willekens, 2008, p. 113).

[36] These provisions are regarding: (a) separation of chairman and CEO; (b) appointment of senior non-executive directors; (c) appointment of non-executive directors (NEDs); (d) independence of NEDs; (e) the term of service contracts; (f) establishment of nomination committee; (g) establishment of compensation committee; and (h) establishment of an audit committee.

(4) 'Type 3' – when the explanations reported for non-compliance are 'too general' and do not address a firm's specific situations;
(5) 'Type 4' – temporary deviation from a code's provision with no further explanations;
(6) 'Type 5' – 'genuine' and detailed firm-specific explanations (e.g., verifiable explanations).

Based on the above categories of explanations, Arcot and Bruno (2011) developed a corporate governance and disclosure index by assigning a weighting of zero to no explanation (Type 0), a weighting of one to uninformative explanations (Type 1), two or three to ambiguous or 'too general' explanations (Type 2 and 3), and a weighting score of four to verifiable and firm-specific explanations. The index assigns the lowest score to uninformative explanation (no explanation for non-compliance) and vice versa. In other words, the index captures the quality of corporate governance disclosure (as measured by the reported explanations for non-compliance). Arcot and Bruno (2011) found that firms which are fully compliant or, alternatively, which fully explain their deviations for non-compliance have a better operating performance (as measured by return on assets). These findings undermine a rules-based approach or a 'one-size-fits-all' approach to corporate governance because investors may tolerate non-compliance if the reasons for non-compliance are fully explained and justified, as recommended by a corporate governance code.

More recently, Shrives and Brennan (2014) examined the quality of explanations reported by FTSE 350 companies in two different time periods (2004–2005 and 2011–2012). Shrives and Brennan (2014) focused on the quality of explanations from different perspectives, such as (a) the location of the explanations; (b) the completeness of the reported explanations; (c) the comprehensiveness; and (d) verifiability of the reported explanations for non-compliance

with the *Code.* Shrives and Brennan (2014) found that the quality of the reported explanations for non-compliance with the corporate governance code was variable. Shrives and Brennan (2014) criticise auditors for their inability to monitor effectively a firm's compliance as well the quality of explanations reported for non-compliance with a corporate governance code. Using a plagiarism detection software, 'Turnitin', Shrives and Brennan (2014) found instances where the explanations (words) reported by non-compliant firms in the UK were partly matched with the explanations reported by other firms operating in the UK and other countries.

Empirical research shows that the flexibility offered by the 'comply or explain' system provides an opportunity for firms to tailor their firm-specific governance arrangements in reducing agency costs (Luo and Salterio, 2014, p. 475). Using a sample of 655 Canadian firms, Luo and Salterio (2014) examined the impact of compliance as well as the quality of corporate governance disclosure on the performance of firms. Using 47 provisions from the Canadian code of best practices, Luo and Salterio (2014) applied a three-point scale (index) to measure compliance and the quality of corporate governance disclosure. For each provision, the index assigns zero for non-compliance or non-disclosure, '1' for compliance, and '2' for explanations reporting alternative governance arrangements. Luo and Salterio (2014) reported a significantly positive relationship between the quality of corporate governance disclosure (measured by the index) and the market value of firms (Tobin's Q).

In a recent study, Inwinkl et al. (2014) analysed 244 stakeholders'[37] responses from European countries and they examined whether the 'explain' pillar of the 'comply or explain' principle should be improved, and what alternative explanations should be reported by non-

[37] These stakeholders were: (a) business federations; (b) stock exchanges; (c) auditors; (d) accountants; (e) institutional investors; (f) citizens; (g) research institutions; and (h) public authorities.

compliant firms. The finding shows that the majority of the stakeholders in the EU member countries were in favour of using effectively the explain option of the 'comply or explain' principle, and 84 per cent of the respondents suggested that companies should fully explain the reasons for non-compliance and any alternative corporate governance mechanisms adopted by non-compliant firms should be fully explained and justified in their annual reports.

In the context of the Netherlands, Hooghiemstra (2012) examines the determinants of corporate governance disclosure for a sample of 331 listed firms between 2005–2009. He divides explanations for non-compliance into three categories. The advantage of using a few categories is that it is then easier to deal with the differences between some of these categories where these may be very marginal (Hooghiemstra, 2012). These three categories are: (a) no explanations – where a firm is non-compliant or it describes an alternative policy but it does not provide any explanation; (b) generic explanations – where a firm provides explanations that use 'standard phrases' and does not provide any firm-specific circumstances; and (c) firm-specific explanation – one that fully justifies the reasons for deviation and is in line with the requirements of the *Code*. Consistent with Arcot and Bruno (2011), Hooghiemstra (2012) developed a corporate governance index, which assigns a lower score to uninformative explanations reported by non-compliant firms and vice versa. Hooghiemstra (2012) finds that certain firm characteristics (such as ownership structure and analyst following[38]) affect a firm's choice about providing more informative firm-specific explanations. This shows that, despite the monitoring role of the capital markets, other external market pressures (such as analysts following) also affect the corporate governance disclosure behaviour of firms. However, neither

[38] The number of analyst firms publishing their reports and opinions (buy, hold, and sell) about a company.

of these studies (Hooghiemstra and Van Ees, 2011; Seidl et al., 2012) provides a longitudinal pattern of corporate governance explanations, although Hooghiemstra (2012, p. 20) suggests that an overall trend in these explanations across different corporate governance systems would give a better understanding of whether, besides certain firm characteristics, these explanations for non-compliance are also affected by country-level characteristics, such as legal systems and capital markets.

Table 2.3 Summary of corporate governance disclosure literature

Study	Country/countries	Sample period	Types of disclosure data	Disclosure index/categories of explanations for non-compliance
Bushman et al. (2004)	1,000 firms across 46 countries	1995	Centre for International Financial Analysis and Research (CIFAR) disclosure data related to corporate governance.	CIFAR disclosure index
Bauwhede and Willekens (2008)	300 firms across Europe	2000	Deminor Corporate Governance Rating	Disclosure index
Arcot and Bruno (2011)	UK – FTSE 350 firms	1998–2004	Reported explanations for non-compliance with the corporate governance code.	Disclosure index based on the following categories of explanations: 1. No compliance statement or no explanation 2. Uninformative explanations 3. Ambiguous explanations 4. Too general explanations 5. Temporary deviation 6. Firm-specific explanations

Table 2.3 continued

Study	Country/countries	Sample period	Types of disclosure data	Disclosure index/categories of explanations for non-compliance
Hooghiemstra (2012)	The Netherlands – 331 firms	2005–2009	Reported explanations for non-compliance with the corporate governance code.	Disclosure index based on the following categories of explanations: 1. No explanations for non-compliance 2. Generic explanations (e.g., explanations using standard phrases) 3. Firm-specific explanations
Seidl et al. (2012)	257 listed firms in the UK and Germany	2006	Reported explanations for non-compliance with the corporate governance codes.	Categories of explanation include: 1. Deficient justification – sub-categories include: (a) no explanations for non-compliance; (b) description of alternative practices; (c). empty justification (e.g., explanations using standard phrases) 2. Context-specific justification – sub-categories include explanations regarding: (a) company size; (b) company structure; (c) international context of the company; (d) industry-specific reasons; (e) other company-specific reasons; and 3. Principled justification – sub-category includes explanations regarding: (a) code provision in conflict with laws or societal norms; (b) general implementation problems; and (c) inefficiency of code provision.

Table 2.3 continued

Study	Country/countries	Sample period	Types of disclosure data	Disclosure index/categories of explanations for non-compliance
Andres and Theissen (2008)	Germany–140 firms	Year ending 2002, 2003 and 2005	Remuneration-related disclosure data from the annual reports.	A disclosure index was used to determine whether a firm reports executive remunerations on an aggregate basis or on an individual basis.
Shrives and Brennan (2014)	UK–FTSE 350 firms	2004–2005 and 2011–2012	Reported explanations for non-compliance with the corporate governance code.	Shrives and Brennan (2014) focused on the quality of explanations from different perspectives, namely: 1. The location of the reported explanations; 2. The completeness of the explanations; 3. The comprehensiveness; and 4. Verifiability of the reported explanations for non-compliance with the code.
Luo and Salterio (2014)	655 Canadian firms	2006	Compliance as well as the quality of explanations reported for non-compliance.	A disclosure index, which captures compliance as well as the quality of explanations reported for non-compliance.
Inwinkl et al. (2014)	244 stakeholders' responses from all European countries	2011	Stakeholders' opinion on how to improve the 'explain' pillar of the 'comply or explain'.	Survey-based research – no index was used.

2.11 Rationale for this study and research questions

Summing up, a considerable amount of literature has examined the impact of corporate governance mechanisms on firm performance in an international context. These studies include sample firms from different corporate governance systems around the world (in particular, the USA, UK, Germany and Japan). However, the existing literature on the relationships between corporate governance and a firm's performance is inconclusive. For example, the findings reported in prior literature have shown either a strong positive relationship (e.g., Klapper and Love, 2004; Durnev and Kim, 2005), or a negative relationship (Bauer et al., 2004) between corporate governance and a firm's performance. On the other hand, some recent studies (e.g., Schultz et al., 2010; Wintoki et al., 2012) did not find any causal relationship between corporate governance mechanisms and firm performance for a sample of 6,000 firms from the United States and 200 Australian firms respectively. This inconclusive evidence indicates that the relationship between corporate governance and firm performance is still an unresolved issue, which needs further investigation.

Relatively few studies have compared the impact of corporate governance mechanisms on firm performance across different corporate governance systems. This research attempts to fill the existing gap in the literature by investigating how internal corporate governance mechanisms have affected firm performance across different corporate governance systems.

This will be examined by comparing the relationships between corporate governance mechanisms and firm performance in two major European economies, the UK and Germany. In addition, this research will also compare the types and quality of explanations reported for non-compliance with the corporate governance codes across these two corporate governance

systems. Consistent with recent index-based studies (as reported in Tables 2.2 and 2.3), this research will develop a 'comply or explain' index that will capture the level of compliance as well as the quality of explanations reported for non-compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code.* As discussed in Section 2.9, regulators in the UK and EU have raised concerns about the quality of explanations reported by non-compliant firms in member states. The Financial Reporting Council has warned that, if the quality of explanations does not improve in 2014, then it would take necessary steps to ensure the implementation of the 'comply or explain' principle. Therefore, this study will also investigate the quality of explanations reported by non-compliant firms in the UK and Germany.

There are several reasons for looking into these two countries. First, the UK and Germany have significant differences in their corporate governance systems, particularly in terms of legal systems (La Porta et al., 1998), ownership structures (Franks and Mayer, 1997), board structures (Davies, 2000) and capital markets (Seidl et al., 2012) and the timing differences in the formation and development of corporate governance codes (Lutz et al., 2011).

Second, previous comparative research across the UK and Germany is entirely based on the theoretical proposition that a concentrated ownership system[39] is a superior control mechanism as compared with a dispersed ownership system (Jungmann, 2006, p. 438). Recent statistics on the UK share ownership structure indicate that individual share ownership in UK listed companies has significantly decreased from 37.5 per cent in 1975 to 10.7 per cent in 2012 (refer to Appendix A). On the other hand, institutional shareholders' ownership in UK

[39] Shleifer and Vishny (1997) argue that large corporations with dispersed shareholders have free-rider issues. They suggest that a concentrated ownership structure can partly mitigate the free-rider issue in large corporations.

corporations has considerably increased to 36.1 per cent in 2012 (Office for National Statistics, 2013). However, ownership patterns have not yet converged in both countries and ownership structure remains dispersed in the UK as compared with a concentrated ownership structure in Germany. Therefore, a study across the UK and Germany could better explain and compare the underlying relationship between corporate governance mechanisms and firm performance.

Third, the UK and Germany are chosen for this study because they exhibit different board systems, with the UK having a 100 per cent unitary board system and Germany a 100 per cent two-tier board system (refer to Figure 2.2). The effectiveness of the one-tier board system in the UK and the two-tier board system in Germany has not attracted significant academic attention since these two board models were first compared by Davies (2000).

Figure 2.2 Prevalence of board structures in Europe

Source: Adapted from Heidrick and Struggles (2011, p. 11)

Fourth, prior comparative studies across the UK and Germany have focused on the relationship between a single corporate governance mechanism and firm performance. For instance, Kaplan (1997) investigated the relationship between executive compensation and firm performance, while other studies (e.g., Franks and Mayer, 2001; Jungmann, 2006) have analysed the relationship between board turnover and firm performance. However, this comparative study examines the relationship between a wide range of internal corporate governance mechanisms and firm performance. These internal corporate governance mechanisms include: (a) board size; (b) the percentage of non-executive directors; (c) the number of board meetings; (d) gearing (the percentage of debt financing); (e) ownership structure; and (f) the 'comply or explain' index – the index used in this study takes into account the level of compliance with corporate governance codes as well as the quality of explanations reported for non-compliance with the corporate governance codes;. Prior studies have either used commercially available corporate governance indices or the indices developed in those studies are largely based on the level of compliance or non-compliance with the corporate governance codes. The quality of reported explanations for non-compliance (corporate governance disclosure) has recently attracted attention from the UK and EU regulators. Previous comparative studies did not provide a longitudinal pattern of changes in the types and quality of reported explanations for non-compliance across different corporate governance systems.

Fifth, these two economies have developed different corporate governance mechanisms (for instance, different board structures, ownership structures, capital markets, legal systems and the enforcement of corporate governance codes, etc.) to resolve the agency problem.

However, the UK corporate governance system and the German corporate governance system are principles-based systems of corporate governance and the corporate governance codes are based on a 'comply or explain' principle. So far, no comparative corporate governance study has focused on both aspects of a 'comply or explain' principle.

Last but not least, comparative corporate governance research across the UK and Germany has been under-researched and a cross-country comparative study could better explain the differences of and implications for national corporate governance regulations.

This thesis investigates how internal corporate governance mechanisms may have affected firm performance in the UK and Germany. The broader research theme on internal corporate governance mechanisms will be examined in the form of the following research questions.

1. How do the types, quality and pattern of explanations for non-compliance with the corporate governance codes vary across the UK and Germany?
2. How has a unitary board structure in the UK and a two-tier board structure in the Germany affected a firm's operating and financial performance? Specifically, this can be investigated by the following sub-questions.

a. How has the 'comply or explain' index, which captures the level of a firm's compliance and the quality of explanations for non-compliance, been associated with a firm's operating and financial performance in the UK and Germany?
b. How has board size affected a firm's operating and financial performance in the UK and Germany?
c. How has board composition affected a firm's operating and financial performance in the UK and Germany?
d. How has the number of board meetings in the UK and Germany been associated with a firm's operating and financial performance?

e. How has external shareholdings (e.g., blockholder ownership) been associated with a firm's operating and financial performance in the UK and Germany?

Figure 2.3 below presents a conceptual framework of this thesis and provides a link between corporate governance and firm performance in the two corporate governance systems. The control variables in Figure 2.3 are explained in the research methodology chapter (refer to Section 3.7).

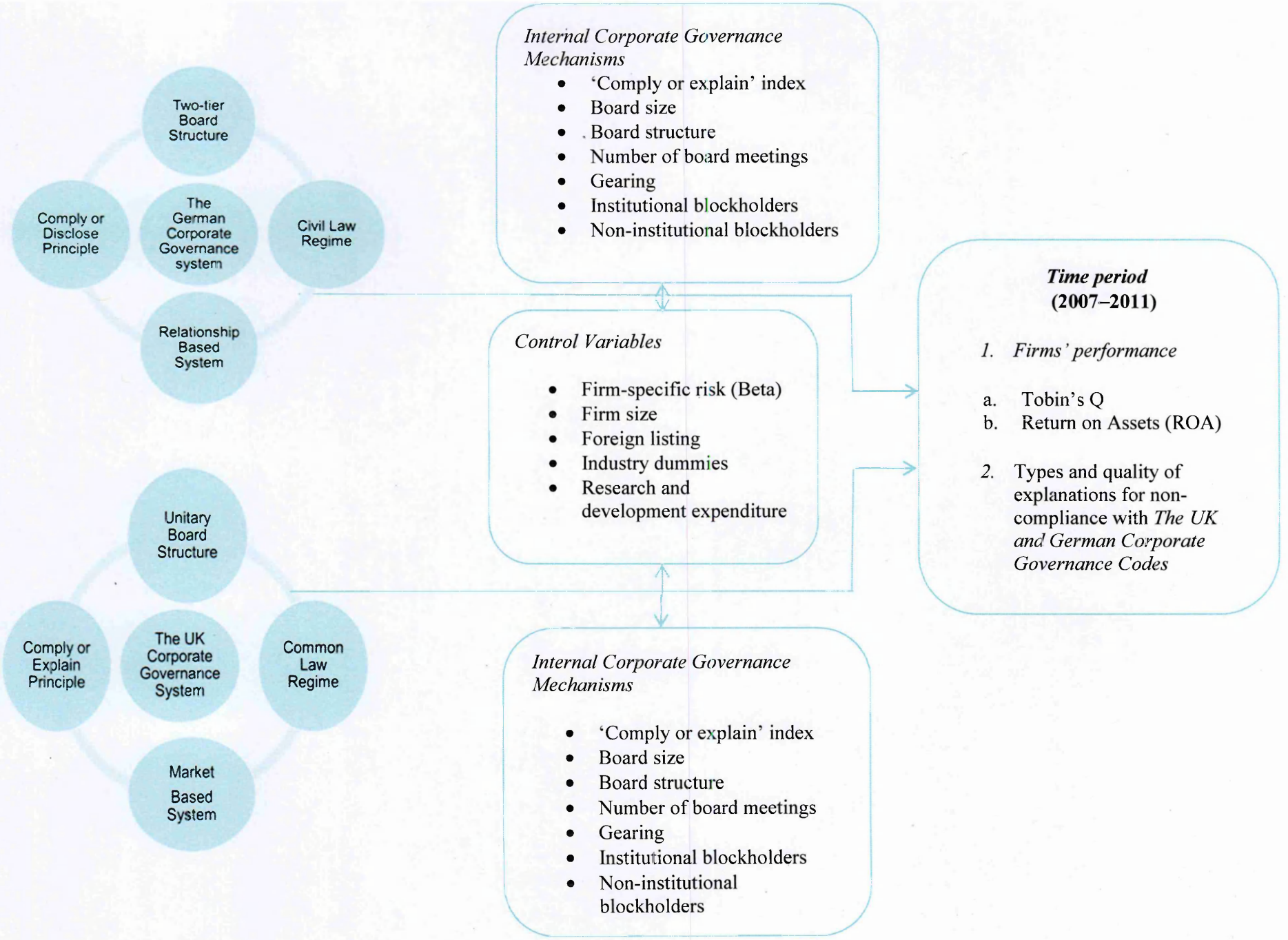
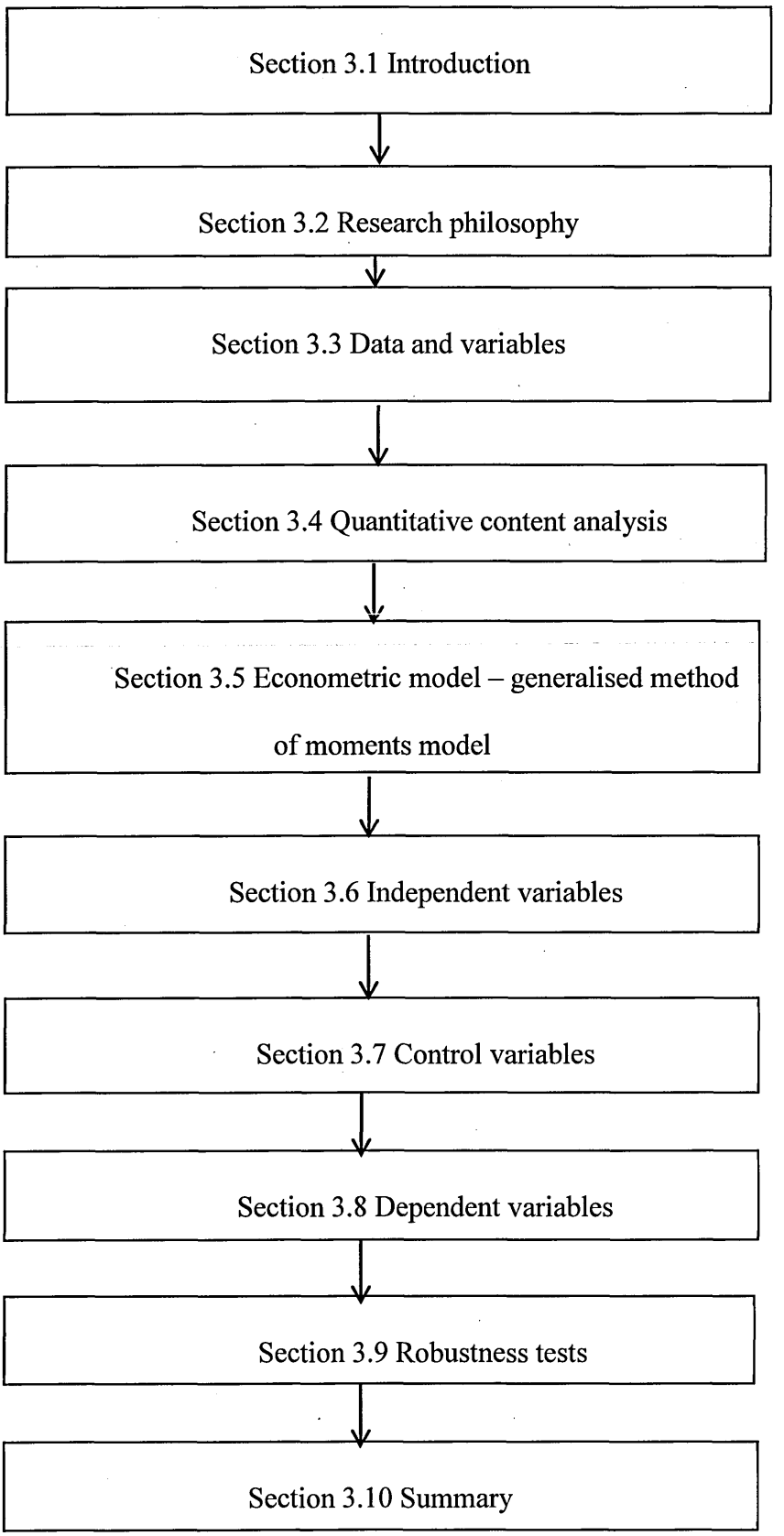


Figure 2.3 Conceptual framework

Chapter 3. Research Methodology



3.1 Introduction

The thesis addresses two broader research questions asked in the previous chapter about: (a) the types and quality of explanations reported for non-compliance with the corporate governance codes; and (b) the relationship between internal corporate governance mechanisms and firm performance. These research questions were developed by applying multiple theoretical perspectives (agency theory, stewardship theory, resource dependence theory and stakeholder theory).

The main objectives of this chapter are as follows. First, it sets out to explain the research design and to justify the reasons for choosing a specific research paradigm suitable for this research. Second, it aims to discuss the data and sample selection procedures and to provide a definition for each variable used in this research. Finally, the chapter seeks to explain and justify the two empirical methods (content analysis and econometric analysis) that are applied in analysing the data.

The remainder of this chapter is organised as follows. Section 3.2 presents the research philosophy; Section 3.3 describes the sample selection procedures, sources of data and the composition of sample; Section 3.4 discusses a quantitative content analysis method, which has been selected to examine the types and quality of explanations reported by non-compliant firms in the UK and Germany; Section 3.5 presents the econometric model, which is used to analyse the relationship between corporate governance mechanisms and firm performance; Section 3.6 defines independent variables and explains the expected governance-performance relationship

by formulating testable hypotheses; Section 3.7 and Section 3.8 discuss control variables and dependent variables; and Section 3.10 summarises the chapter.

3.2 Research philosophy

A social science researcher is likely to adopt and justify a particular research philosophy which includes key assumptions about the way in which a researcher views the world. These assumptions include: (a) epistemological assumptions (the nature and scope of knowledge); (b) ontological assumptions (the nature of reality); and (c) methodological assumptions (the process of research). Saunders et al. (2012) outline three major philosophical views which are: (a) positivism; (b) interpretivism; and (c) realism. These three dominant paradigms are different from one another in terms of the assumptions they make about the nature and scope of knowledge (epistemological assumptions) and the nature of reality (ontological assumptions) and the research process (methodological assumptions). These assumptions affect the researcher's approach towards formulating research question(s), the choice of a suitable research method and the way to interpret the research findings . For instance, Saunders et al. (2012, p. 128) argue:

> 'a researcher who is concerned with facts, such as the resources needed in a manufacturing process, is likely to have a very different view on the way research should be conducted from a researcher concerned with the feelings and attitudes of the workers towards their managers in that same manufacturing process'.

The principle of positivism relates to 'working with an observable social reality that the end product of such research can be law-like generalisations similar to those produced by natural scientists' (Remenyi et al., 1998 cited in Saunders et al., 2012, p. 110). Positivist researchers argue that the 'reality' is represented by 'objects' and the data collected are free

from bias because the researcher has less influence over the data collected. Like natural scientists, positivist researchers collect data and test, often applying quantitative techniques and one or more theories which lead the researchers to develop one or more hypotheses to construct a relationship between observable facts (variables) (Saunders et al., 2012, p. 103).

On the other hand, researchers in the interpretative paradigm advocate that 'reality' is 'subjective' and argue that understanding human behaviour as a social construct rather than 'objects' will give a better understanding of the world (Saunders et al., 2012, p. 106). Researchers in this paradigm usually apply qualitative approaches to understand the complex environment of different social institutions and social actors. The findings reported under this approach may not be generalised owing to significant differences across individual social actors and social institutions (businesses) (Saunders et al., 2012).

Advocates of the realist approach combine some unique aspects of positivism and interpretivism. For instance, direct realists argue that reality is objective and is external to the researcher. Critical realists, however, argue that 'what we experience are sensations, the images of the things in the real world, not the things directly' (Saunders et al., 2012, p. 136). Like positivism, realism acknowledges that the social 'reality' is objective and external to the researcher, but this approach also takes into account the importance of 'subjectivity' and the 'social actors involved in the knowledge derivation process' (Saunders et al., 2012, p. 136).

Traditionally, adopting an appropriate research philosophy is often debated in the context of a choice of either a positivist or interpretivist approach or a choice between quantitative or qualitative methods (Saunders et al., 2012, p. 129). As discussed in the literature

review section, prior corporate governance studies have only used a positivist (quantitative) approach in analysing the relationship between corporate governance and firm performance. Therefore, adopting a positivist approach for this research is not only consistent with the literature but it will also be helpful in comparing the results of this research with those reported in previous corporate governance studies. Researchers in the positivist paradigm usually use quantitative research methods in analysing the relationship between observable firm-specific governance mechanisms (such as board size – measured by the number of directors; board structure – measured by the ratio of independent non-executive directors to total number of directors, etc.) and firm performance as measured by financial ratios, such as return on assets and Tobin's Q. As explained earlier, an important aspect of the positivist paradigm is to use one or more theories and to develop one or more hypotheses. These hypotheses are tested by applying appropriate econometric techniques. Using multiple theoretical perspectives, the expected governance-performance relationship has been presented in the form of different hypotheses (refer to Section 3.6). For this research, the governance and financial performance variables are measured quantitatively. Hence, keeping in view the large sample (120 firms) and the longitudinal nature of the data (2007–2011), a positivist approach and quantitative methods are considered an appropriate choice to answer underlying research question about the relationship between governance and firm performance. Therefore, this research adopts a 'positivist' approach in analysing the relationship between internal corporate governance mechanisms and firm performance. Section 3.5 further explains the econometric model used in this research.

A content analysis approach will be adopted to answer the research question presented in the previous chapter about – how the types and quality of explanations for non-compliance with the corporate governance codes vary across the UK and Germany. Accounting researchers generally use two types of content analysis: (a) a mechanistic or quantitative approach; and (b) an interpretive or qualitative approach (Beck et al., 2010, p. 208). These two different approaches fit into the positivist and interpretivist research paradigms respectively.

Content analysis is defined as 'the systematic, objective, quantitative analysis of message characteristics' (Neuendorf, 2002, p. 1). Merkl-Davies et al. (2012) argue that a content analysis approach is widely used in analysing corporate documents, such as annual reports, chief executive officers' (CEO) letters, corporate social responsibility statements, corporate websites and press releases, etc. In the context of this study, 'content' refers to the explanations reported for non-compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code*.

Merkl-Davies et al. (2012, p. 9) define a quantitative content analysis method as follows:

> 'Quantitative form-oriented content analysis entails converting proxies for organizational disclosure behaviour into numerical scores or indices (which can be subsequently related to organizational variables, such as organizational performance or firm size by means of statistical association tests in order to explain the determinants of disclosure behaviour'.

Beck et al. (2010, p. 208) argue that a 'mechanistic' or quantitative content analysis approach captures the 'disclosure volume or frequency' and this method is suitable for understanding the disclosure behaviour of a firm. On the other hand, an interpretive or qualitative content analysis approach, which has been rarely used in the finance literature, largely 'focuses on underlying themes in the text under investigation' (Smith and Taffler, 2000,

cited in Beck et al., 2010, p. 208). Section 3.4 further describes how the quantitative content analysis approach would be implemented in analysing the text in the corporate governance reports of the UK and German companies.

In categorising the frequency of different types of explanations given for non-compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code*, this research follows a quantitative content analysis approach, as used by Hooghiemstra and Van Ees (2011) and Seidl et al. (2012). A positivist approach or a quantitative content analysis approach is more suitable in a number of ways. First, an interpretive or qualitative content analysis approach is designed for a small sample and it may not be possible to carry out a qualitative content analysis for a large sample of 600 corporate governance reports, which will be used in this study. Second, existing corporate governance studies (Arcot and Bruno, 2011; Hooghiemstra and Van Ees, 2011; Hooghiemstra, 2012; Seidl et al., 2012) have also used a quantitative content analysis approach to determine the quality of corporate governance disclosure. Therefore, the underlying research question can be better answered by applying a quantitative content analysis approach instead of a qualitative content analysis approach. Using a quantitative content analysis will make it easier to compare the results of this study with recent studies (e.g., Arcot and Bruno, 2011; Hooghiemstra and Van Ees, 2011; Hooghiemstra, 2012; Seidl et al., 2012). Third, the quantitative content analysis assigns a numerical score to each category of explanation identified in the corporate governance statements. The numerical score will also be used in developing an index ('comply or explain' index)[40] for the econometric analysis. The 'comply or explain' index captures the level of compliance as well as the quality

[40] Refer to Section 3.6.1 for more details about the 'comply or explain' index.

of explanations reported for non-compliance. Hence, a 'comply or explain' index can only be developed if a quantitative content analysis has been carried out. Fourth, quantitative content analysis is an objective and robust method because the inter-coders' reliability test[41] determines the validity and reliability of this method and therefore the results can also be generalised (Neuendorf, 2002). Finally, Merkl-Davies et al. (2012) argue that a quantitative content analysis technique (or positivist evaluation criteria) possesses all the characteristics of a valid research method, such as reliability, generalizability and internal and external validity. The next section explains the data and sample selection procedures.

3.3 Data and variables

3.3.1 Sample selection and data collection

The sample of firms used in investigating the relationship between corporate governance and a firm's performance and the quality of explanations for non-compliance is drawn from companies listed on the Frankfurt Stock Exchange and London Stock Exchange. In line with a recent comparative study on the UK and Germany (Seidl et al., 2012), this research also includes German firms from different stock market indices, ranging from the medium-sized companies that comprise MDAX 50, to the largest companies in the DAX 30, for the period ending 2007–2011. Similarly, in the UK, the same number of firms has been selected from the London Stock Exchange on the basis of their market capitalisation with their corresponding German peers in the same industry. This reduces any sample selection bias arising from 'country specificities' because the UK and Germany have contrasting capital market structures (Seidl et al., 2012, p. 8). The unavailability of corporate governance data for small size German

[41] The inter-coders' reliability test determines whether a correct coding approach has been adopted or not (for more details about this test, refer to Section 3.4).

companies (SDAX 50) restricts the initial sample to 80 companies in the UK and Germany respectively. Table 3.1 explains the sample selection process used for the econometric analysis and the content analysis.

For both econometric analysis and the content analysis, the financial period 2007–2011 is selected because full compliance statements for all sample German companies were available from year 2007 onward. Second, the end date of 2011 was selected because it is the most recent year for which corporate governance and financial data were available for the sample firms at the time of doing this research.

A total sample size of 120 firms from both the UK and Germany is relatively larger than that used in prior comparative studies on the UK and Germany. For instance, a recent study (Jungmann, 2006) on the effectiveness of a unitary board structure versus a two-tier board structure only used 25 firms from UK and Germany respectively. The selected sample size also represents key industrial sectors from both countries. Table 3.2 shows the industrial sectors of the 120 sample firms for which the corporate governance and financial data are available on DataStream for the period 2007–2011. The largest portion of the sample of companies in both countries belongs to the industrial goods and chemical and pharmaceutical industries.

Table 3.1 Sample selection

Germany	
Firms listed on DAX 30[42] and MDAX 50 over the period 2007–2011	80
Less: Insurance, utilities and financial firms[43]	(9)
Initial Sample	71
Less: Firms with compliance statements in German[44]	(2)
Less: Firms with compliance statements not available for five years or less than five years	(9)
Final sample	60
UK	
60 non-financial firms drawn from FTSE All Share Index	60

Table 3.2 Sample characteristics

Industrial composition	Germany	%	UK	%
Automobiles & Parts	5	8.3	1	1.7
Basic Resources	3	5	9	15
Chemicals	9	15	6	10
Construction & Materials	1	1.7	1	1.7
Food & Beverage	1	1.7	3	5
Health Care & Pharmaceutical	6	10	12	20
Industrial Goods & Services	17	28.3	13	21.6
Media	2	3.3	1	1.7
Oil & Gas	0	0	3	5
Personal & Household Goods	6	10	4	6.6
Real Estate	1	1.7	2	3.3
Retail	3	5	1	1.7
Technology	3	5	1	1.7
Telecommunications	1	1.7	1	1.7
Travel & Leisure	2	3.3	2	3.3
Total	60	100%	60	100%

Source: Compiled from DataStream.

[42] DAX stands for Deutscher Aktien Index (German Stock Index).

[43] In line with the literature, these firms are excluded because of their different regulatory and governance structure (Hooghiemstra, 2012).

[44] These companies are (a) Wincor Nixdorf AG; and (b) Hochtief AG (AG stands for Aktiengesellschaft, which indicates German stock corporation). The 2009 and 2010 compliance statement of Douglas Holding AG is, however, conveniently translated from the German language using the Google translator service. The reports of these two companies are read-only documents and hence they do not allow the option of being copied.

In order to make the analysis comparable across these two countries, non-financial firms in the UK were selected based on the industrial classification of their corresponding German counterparts. Only 60 companies are selected from each country because there are only 60 non-financial companies listed on DAX 30 and MDAX 50 in Germany. Therefore, this also restricts the corresponding sample to 60 companies in the UK. A list of German and UK companies has been shown in Appendix B and Appendix C.

Corporate governance data in DataStream is only available for DAX 30 and MDAX 50 companies. Owing to the lack of availability of governance data for small-sized German companies, the scope of the sample is limited to only large companies. The larger companies are selected because 'larger firms especially will care more about their corporate reputation as they will be more visible to media attention and face more scrutiny from the investor community' (Hooghiemstra and Van Ees, 2011, p. 483). Second, larger firms have 'severe' agency problems as compared with small firms (Beiner et al., 2006, p. 253).

Two types of data are required to examine the relationship between internal corporate governance mechanisms and a firm's performance. Corporate governance data (board size, board structure, number of board meetings, gearing, firm-specific risk (beta), foreign listings) and financial data (firm size, return on assets, Tobin's Q) for selected UK and German companies are taken from DataStream. Blockholders' ownership data were derived from Thomson One database. Thomson One reports the identity of all shareholders, including their names, the number of ordinary shares owned, the value of investment, the location of investors and the percentage of shareholdings. The database further classifies owners into different categories, such as individuals/families, corporations, holding companies, pension funds, hedge

funds, hedge endowment funds, finance companies, investment advisers, banks and trusts, insurance companies and financial institutions. The UK's regulation requires each company to disclose the identity of all shareholders who own more than three per cent of the total equity of a company (O'Sullivan, 2000), while in Germany, this threshold for ownership disclosure is five per cent (Fidrmuc et al., 2006). Owing to different disclosure requirements and limits in different countries, cross-country comparative studies on market-based and relationship-based systems (Fidrmuc et al., 2006; Thomsen et al., 2006) have used a common threshold of five per cent for blockholders' ownership. Consistent with prior comparative studies (Fidrmuc et al., 2006; Thomsen et al., 2006), this study also uses a minimum threshold of five per cent for external blockholders. This will not only make the results comparable across these two countries, it will also help in comparing the results of this study with those reported in prior comparative studies. Data for the content analysis of corporate governance reports were collected from the annual reports of the 60 largest UK and 60 largest German non-financial companies over the period 2007–2011. The annual reports of UK companies were downloaded from Hemscott Company Guru Academic (now Morningstar Company Intelligence). For German companies, the compliance statements (declaration of conformity) were downloaded from the website of the Commission of the German Corporate Governance Code (Commission of the German Corporate Governance Code, 2012b).

Data for the selected sample of 120 companies were collected for five years. 120 firms' corporate governance reports for five years (2007–2011) result in 600 corporate governance reports. Before doing the regression analysis for all corporate governance variables and the financial performance variables, some data were manually collected for missing observations

for various corporate governance variables[45] from the annual reports of UK and German companies. This provides a balanced panel data set for the econometric analysis. Panel data combine the richness of both longitudinal and cross-sectional data, provide more informative data and more precise estimates and reduce the problem of collinearity among variables (Gujarati, 2003, p. 637). Furthermore, panel data offer an advantage over time series and cross sectional data, allowing the application of complex econometric models to detect and measure the dynamic relation between independent variables (e.g., governance mechanisms) and dependent variables (e.g., firm performance) (Gujarati, 2003, p. 638). The next section discusses the content analysis procedures.

3.4 Quantitative content analysis

Along with the econometric analysis, which will be explained in Section 3.5, this research also uses content analysis to understand the types of explanations given for non-compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code*. The underlying research philosophy and a rationale for choosing the quantitative content analysis approach have already been discussed in Section 3.2. Bos and Tarnai (1999, p. 20) argue that quantitative content analysis is not merely a 'word count' exercise but in fact, if applied in the right context and if appropriate steps are used, then researchers can make valid inferences about the underlying text in investigation. Bos and Tarnai (1999) suggest a five-step process to be used when carrying out content analysis. These steps are: (a) outlining the research question; (b) developing appropriate categories

[45] These governance variables include: (a) board size data for ten UK and eight German companies; and (b) data about the ratio of independent non-executive directors to total board members for seven UK and five German companies.

to be used in classifying the text; (c) determining the validity and reliability of these categories by conducting a pre-test of the instrument; (d) collecting the data for the whole sample and coding the text; and (e) analysis and interpretation of the results.

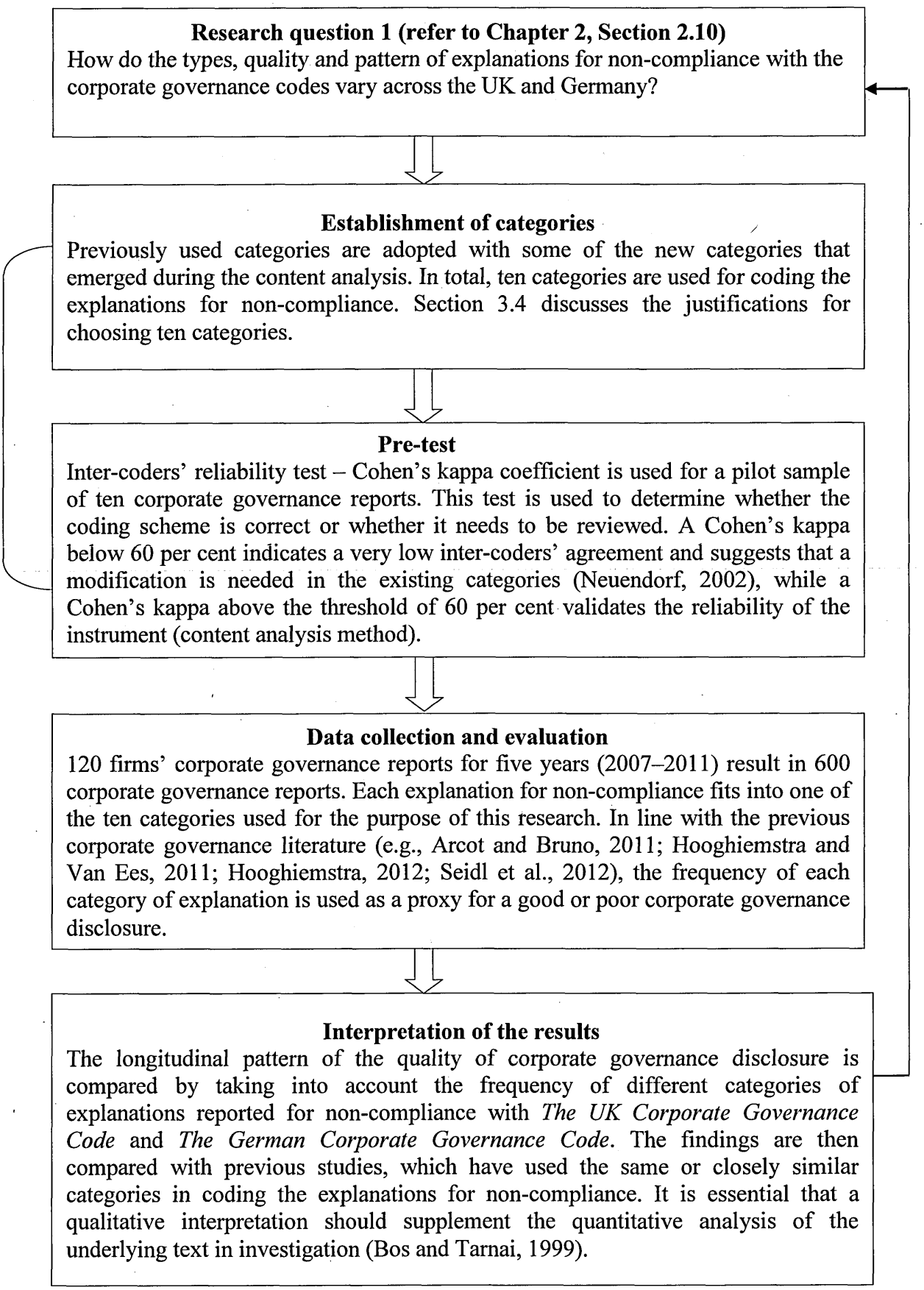
Following Bos and Tarnai (1999), Figure 3.1 explains the content analysis procedures that are used in this study. Beginning with the first step, the research seeks to investigate the types and quality of explanations reported for non-compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code*. The second step requires identifying non-compliance and the explanations for non-compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code*. A number of reported explanations for non-compliance is identified in the corporate governance statements (or declaration of conformity in the case of Germany) by looking for various phrases, such as 'do not comply with....' '...deviates from...' '...except...' '...save for...' and so on. The 2007, 2008, 2009 and 2010 versions of the *German Corporate Governance Code* and the 2006, 2008 and 2010 versions of the *UK Corporate Governance Code* are applicable during the reporting period 2007–2011. *The UK Corporate Governance Code* and *The German Corporate Governance Code* have already been discussed in Section 2.7. Prior index-based corporate governance studies (e.g., Gompers et al., 2003; Drobetz et al., 2004; Beiner et al., 2006) have focused on developing compliance or non-compliance indices, based on a certain number of provisions from a corporate governance code. However, the content analysis approach only focuses on the explanations for non-compliance; therefore any explanation reported in response to non-compliance with any provision of *The UK Corporate Governance Code* and *The German Corporate Governance*

Code has been taken into consideration. Further, the reported explanations are listed down for each company and then they are classified into different categories, ranging from uninformative explanations (such as no explanation for non-compliance) to detailed and firm-specific explanations (such as explanations regarding a company size, or board structure). For this study, the explanations for non-compliance are divided into ten categories because some of the categories already identified in the literature either overlap or there are only marginal differences between them (for example, Arcot and Bruno, 2011; Hooghiemstra and Van Ees, 2011; Hooghiemstra, 2012; Seidl et al., 2012). In addition, two new categories, 'partial non-compliance' and 'assurance of future compliance', emerged after analysing the compliance statements, which makes the number of categories and the categorisation scheme different from previous studies (refer to Table 3.3 for a definition of each category of explanation).

Once the categories are identified, the next step is to test the reliability of the coding scheme. In a mechanistic (quantitative) content analysis, Cohen's kappa test of inter-coders' reliability is used to determine whether the coding process yields similar results if the same content (text) were to be coded by independent (external) coders. A simple per cent agreement between two coders can be misleading as it ignores the chance agreement between two coders. Cohen's kappa coefficient is more robust because its calculation takes into account the chance agreement between different coders (Neuendorf, 2002, p. 151). Examining the explanations for non-compliance and applying a content analysis approach, recent corporate governance studies (e.g., Hooghiemstra and Van Ees, 2011; Hooghiemstra, 2012) have also used a Cohen's kappa test to measure the reliability of the coding scheme.

For this study, two coders independently coded the compliance statements for ten firms, using the categorisation scheme given in Table 3.3. One coder was doing a PhD in finance and the other coder was an MSc graduate in accounting and finance. The coding process was explained to each coder and a definition and example of each category of explanation was also given to them. The results reported by each coder were compared and for each category of explanation the agreement or disagreement between the coders was recorded in a tabular form. The coding process yielded reliable results and the Cohen's kappa is 71 per cent, which shows excellent agreement between coders. If a Cohen's kappa test of agreement is less than 60 per cent, it would mean that there is a general problem in understanding and implementing the coding scheme and therefore categories should be reviewed before starting the actual content analysis (Neuendorf, 2002). In this case, the Cohen's kappa inter-coders' reliability test (pre-test) is above the minimum threshold of 60 per cent, which suggests that the researcher can proceed with the actual content analysis. The corporate governance reports were downloaded for the sample of 120 firms over the period of five years (2007–2011), and the actual content analysis was carried out for a sample of 600 corporate governance reports. The results are reported in Chapter 4. Table 3.3 defines each category of explanation used in classifying the reported explanations for non-compliance with the corporate governance codes. The method used in classifying the explanations for non-compliance is consistent with the recent literature (e.g., Arcot and Bruno, 2011; Hooghiemstra and Van Ees, 2011; Hooghiemstra, 2012; Seidl et al., 2012). Further examples for each category of explanation can be seen in the following chapter (Table 4.2).

Figure 3.1 The content analysis procedures



Source: Figure 3.1 is developed based on the five-step process proposed by Bos and Tarnai (1999, p. 667).

Table 3.3 Definition of various categories used in coding the explanations for non-compliance

Category of explanation	Definition
1. Partial non-compliance	When a firm is non-compliant over a specific period of time during the reporting period or it fails to implement all aspects of a specific *Code* provision.
2. No explanations for non-compliance	When a firm reports no explanation for non-compliance.
3. Description of alternative practices	When a firm is non-compliant with a particular provision of the *Code* and it offers alternative corporate governance mechanisms.
4. Generic or standard explanations	When a firm justifies non-compliance by using standard phrases, such as 'in the best interest of the company'...'in our opinion'...'we believe that'....and so on.
5. Future assurance of compliance	When a firm intends to implement a *Code's* provision in the following year or in the near future.
6. Explanations regarding company size, board size or company structure	When a firm is non-compliant and provides explanations that it could not implement a provision of the *Code* owing to its small board size, company size or the structure of the company.
7. Explanations regarding a company's foreign listings or international operations	When a firm is non-compliant and it justifies non-compliance with reference to its foreign operations or listings in other stock exchanges.
8. Company, industry or market related specific explanations	When a firm justifies non-compliance and refers to its specific situation or to the prevailing practices in the market or industry in which it operates.
9. *Code* provision conflicts with laws	When a provision of the *Code* is in conflict with any other prevailing laws in the country and a firm refers to such conflicting provision(s) when justifying its non-compliance.
10. Firm-specific issues with *Code* implementation or less effectiveness of the *Code* provision	When a firm has operational issues in terms of *Code* implementation or it believes that a provision of the *Code* would be less effective for the organisation.

The next section discusses the econometric model, which would be applied to examine the second research question – the relationship between internal corporate governance mechanisms and firm performance (refer to Chapter 2, Section 2.10).

3.5 Econometric model – Generalised method of moments model (GMM)

Recent research (e.g., Schultz et al., 2010; Wintoki et al., 2012) has raised serious concerns about the econometric techniques applied in prior corporate governance studies. For instance, most corporate governance researchers have either used an ordinary least squares regression (e.g., Gompers et al., 2003; Klapper and Love, 2004) or a fixed-effects model (e.g., Yermack, 1996; Chhaochharia and Laeven, 2009; Ammann et al., 2011) to estimate the relationship between governance and performance. The findings reported in these studies should be 'interpreted with caution' because the econometric models used in these studies fail to control for different kinds of endogeneity – a situation when the causality may run from performance to governance (Schultz et al., 2010 , p. 146). Wintoki et al. (2012) identify three sources of endogeneity and they argue that the existence of even one source of endogeneity in the data will generate biased results.

These three sources of potential endogeneity are:

(1) Unobserved heterogeneity;

(2) Simultaneity or reverse causation; and

(3) Dynamic endogeneity.

Unobserved heterogeneity arises when the relationship between an independent variable (governance) and dependent variable (performance) is affected by an unobservable factor (for

instance, firm-specific characteristics), which may be unknown to the researcher. Simultaneity or reverse causation arises when two variables (governance and performance) affect each other simultaneously. For instance, it has been reported in prior studies that compliance with corporate governance code enhances a firm's performance and valuation, but it is possible that firms with higher market valuation may choose strong corporate governance mechanisms and, further, that a need for external financing may also motivate firms to implement better governance practices (Durnev and Kim, 2005).

Dynamic endogeneity arises when a firm's past/current performance affects the current/future governance structure of a firm (Wintoki et al., 2012, p. 582). For example, poor corporate performance may cause changes in the governance structure (removal of one or more directors from the board by shareholders) of a firm. Schultz et al. (2010) and Wintoki et al. (2012) suggest that by using a dynamic generalised method of moments model (GMM), researchers can control for these kinds of endogeneity and thus the GMM model provides significant advantage over the ordinary least squares regression and fixed-effect models. For instance, the ordinary least squares model and fixed-effects model ignore unobserved heterogeneity and dynamic endogeneity respectively and applying these techniques will provide biased estimates about the relationship between corporate governance and firm performance (Wintoki et al., 2012, p. 582). However, fixed-effects estimation technique can potentially control for unobservable heterogeneity under the assumption of strict exogeneity, which means that a firm's current governance mechanisms (independent variables) are not affected by any changes in a firm past, present or future financial performance (dependent variables) (Schultz et al., 2010; Wintoki et al., 2012). However, as discussed before, in reality, this assumption of

strict exogeneity is violated because a firm's past/current performance may affect the current/future governance structure of a firm. Furthermore, both fixed-effects and random-effects are static panel data models, which means that they do not allow for the lag of the dependent variables (firm financial performance) to be included as an explanatory variable in the econometric model (Wooldridge, 2012). An ordinary least squares regression model fails to control for unobserved heterogeneity and the fixed-effects or random-effects models could potentially overcome this problem. The governance-performance relationship is dynamic, and so, traditional fixed-effects and random-effects panel data static models would provide inconsistent and biased results (Wooldridge, 2012).

Arellano and Bond (1991) and Blundell and Bond (1998) developed the generalised method of moments (hereafter GMM) model which can be used for dynamic panel data. The GMM model provides consistent results in the presence of endogeniety, such as unobserved heterogeneity, simultaneity and dynamic endogeneity (Wintoki et al., 2012, p. 588). A GMM model takes into account the dynamic nature of the governance and performance relationship, by including the lagged effect of the dependent variables (firm's past financial performance) as an instrument (exploratory variable) to control for the endogeneity being caused by simultaneity (Wintoki et al., 2012). Traditionally, corporate governance researchers (Schultz et al., 2010; Wintoki et al., 2012) have used two lags of the dependent variables and they argue that two lags is sufficient to capture the persistence of profitability. The GMM model removes endogeneity (fixed effects) by internally transforming the data – a variable's past value is deducted from its present value (Roodman, 2009, p. 86). In this way, the number of observations is reduced but this process (internal transformation) enhances the efficiency of the GMM model (Wooldridge,

2012). Furthermore, two kinds of transformation methods, known as first-difference transformation (one-step GMM) and second-order transformation (two-step GMM), can also be used as GMM estimators. However, first-difference transformation (one-step GMM) has some limitations. For instance, if a variable's recent value is missing then the first-difference transformation (where a variable's past value is deducted from its current value) could result in the loss of too many observations (Roodman, 2009, p. 104). In order to avoid potential data loss owing to the internal transformation problem with the first-step GMM, Arellano and Bover (1995) recommend the use of a second order transformation (two-step GMM). Second-order transformation (two-step GMM) applies 'forward orthogonal deviations', which means that instead of subtracting the previous observations of a variable from its current value, the two-step GMM subtracts the average of all future available observations of a particular variable (Roodman, 2009, p. 104). Using a two-step GMM model, researchers can prevent unnecessary data loss. Therefore, in the case of a balanced panel dataset, a two-step GMM model provides more efficient and consistent estimates for the coefficients (Arellano and Bover 1995, cited in Roodman, 2009, p. 105).

This study uses a two-step system GMM model to provide an unbiased estimate of the relationship between corporate governance and firm performance. In the past 23 years, corporate governance research has witnessed substantial methodological developments. For instance, the ordinary least squares regression model has been widely applied in corporate governance research, particularly after the publication of the first index-based corporate governance study by Gompers et al. (2003) about the relationship between governance mechanisms and firm performance. In order to overcome any potential endogeneity problems

associated with the ordinary least squares estimation method, researchers (such as, Chhaochharia and Laeven, 2009; Guest, 2009) then suggested using fixed-effects or random-effects models. However, recent research (e.g., Schultz et al., 2010; Wintoki et al., 2012; Pathan and Faff, 2013) shows that more sophisticated models, such as a GMM, controls for different kinds of endogeneity issues, including: (a) unobserved heterogeneity; (b) simultaneity; and (c) dynamic endogeneity, as already discussed. A GMM model is suitable for panel data with a large number of observations (large *N*) and few time periods (small *T*) (Roodman, 2009, p. 86). This study also uses strongly balanced panel data for 120 firms with 600 observations (large *N*) and for five years (2007–2011, small *T*).

Following Schultz et al. (2010) and Wintoki et al. (2012), the general dynamic generalised method of moments model (GMM) that will be used in this research is as follows:

$$P_{it} = \partial P_{i,t-1} + G\beta_{it} + Xn_{it} + \mu_{it} + \varepsilon_{it} \qquad (1)$$

Where:

- P_{it} stands for firm performance (operating and financial performance) across *N* observations and *I* firms over the time period;
- $P_{i,t-1}$ is a one period lag operator (previous year operating and financial performance);
- $G\beta_{it}$ represents corporate governance variables ('comply or explain' index, board size, board structure, number of board meetings, gearing, institutional blockholders, non-institutional blockholders) across *N* observations and *I* firms over the time period;
- Xn_{it} represents control variables over the time period;
- μ is firm-specific fixed effects; and

- ε_{it} represents the error term across N observations and I firms.

In other words, the left-hand side of the equation represents operating and financial performance variables (ROA, Tobin's Q) and the right-hand side represents independent variables (internal corporate governance mechanisms, such as board size, board structure, number of board meetings and gearing) and control variables, such as firm size, foreign listing, firm-specific risk and industry dummies.

Arellano and Bond (1991) suggest two post-estimation tests: (a) the Sargan test;[46] and (b) the Arellano–Bond test for auto-correlation.[47] These two post-estimations tests are further explained in Chapter 5. The next section explains the independent variables used in the econometric model.

3.6 Independent variables

3.6.1 The 'comply or explain' index

The methodology used in developing a 'comply or explain' index is in line with the well-known methodology used in the accounting and finance literature (e.g., Gompers et al., 2003; Bauer et al., 2004; Klapper and Love, 2004; Beiner et al., 2006; Bauwhede and Willekens, 2008; Aggarwal et al., 2010; Hooghiemstra, 2012). These studies have largely focused on the level of compliance with corporate governance codes by either developing their own corporate governance index for each firm (e.g., Beiner et al., 2006; Hooghiemstra, 2012) or

[46] The Sargan test is used to determine whether the econometric model is valid or not, and whether the instruments are correctly specified or not. In other words, if the null hypothesis is rejected, the researcher needs to reconsider the model or the instruments used in the estimation process.

[47] In order to examine the validity of a strong exogeneity assumption, the Arellano-Bond test for no auto-correlation (or no serial correlation) is used under the null hypothesis that the error terms of two different time periods are uncorrelated. In other words, it means that the lagged variables are not correlated with the error term in the governance-performance equation.

by using commercially available corporate governance indices, such as: (a) the Investor Responsibility Research Centre (IRRC) data on corporate governance (Gompers et al., 2003); (b) the Credit Lyonnais Securities Asia (CLSA) governance index (Klapper and Love, 2004); (c) the Deminor corporate governance rating for EU firms (Bauer et al., 2004; Bauwhede and Willekens, 2008); and (d) the Institutional Shareholder Services (ISS) data on corporate governance (Aggarwal et al., 2010).

The 'comply or explain' index used in this study is a fine-tuning of the compliance indices used in prior studies (e.g., Gompers et al., 2003; Bauer et al., 2004; Klapper and Love, 2004; Beiner et al., 2006; Bauwhede and Willekens, 2008; Aggarwal et al., 2010; Hooghiemstra, 2012). The index used in this study not only captures the level of compliance with corporate governance codes as used in previous studies but also focuses on the quality of explanations given for non-compliance with the corporate governance codes. The 'comply or explain' index is a proxy for good corporate governance practices and it is developed by assigning a score of 1 to 5 to each firm. For instance, a higher score on the 'comply or explain' index indicates that a firm is either fully compliant or fully explains and justifies the reasons for non-compliance with the recommended code of best practices (a sign of good governance). There are two reasons for assigning a higher score of 5 to a fully compliant firm or to a high quality detailed explanation in the 'comply or explain' index. First, the Financial Reporting Council in the UK acknowledges the fact that non-compliance may be justified in specific situations, if a firm can achieve good governance by offering different governance mechanisms in response to those prescribed by the *Code* (Financial Reporting Council, 2012b, p. 4). Second, Arcot and Bruno (2011, p. 12) also noted that: 'there should be no difference between a

compliant company and a non-compliant company that deviates from standards for good and valid reasons that are fully disclosed'. In fact, if any index-based study ignores any aspect of the 'comply or explain' principle, then it would fail to establish a valid inference about the effectiveness of the 'comply or explain' principle. Similarly, a lower score on the 'comply or explain' index shows that a firm is non-compliant and either reports no explanations for non-compliance or provides generic or standard explanations, which in both cases could be considered a sign of poor corporate governance disclosure (Arcot and Bruno, 2011; Hooghiemstra, 2012).

Following Hooghiemstra (2012), the procedures used to develop a 'comply or explain' index are as follows. The index assigns a highest score of 5 to a fully compliant firm with all provisions of the *Code*. In the case of non-compliance, the index also takes into account the explanations for non-compliance; therefore a score from 1 to 5 would be assigned to each category of explanation reported for non-compliance, with the score assigned being based on the relative informativeness of each category of explanation. In developing a 'comply or explain' index, a lower score of 1 is assigned when a firm reports 'no explanation' for non-compliance; a score of 2 when a firm provides 'generic' or 'standard explanations' or assurance of future compliance; a score of 3 for explanation offering alternative corporate governance mechanisms; a score of 4 to partial non-compliance over a temporary period of time; and a score of 5 to high quality detailed and firm-specific explanation. Some of these categories are uninformative (such as no explanations for non-compliance), while certain categories of explanations are highly informative, such as firm-specific explanations and explanations regarding a company's size and structure. Table 3.4 describes the categories used in the

'comply or explain' index, with a corresponding score assigned to each category, based on the order of its relative informativeness.

Table 3.4 Definition of various categories used in the 'comply or explain' index

Categories of explanations	Description	Score
a. No explanations for non-compliance	When a firm provides no explanation for non-compliance.	1
b. Generic or standard explanations	When a firm explains non-compliance by using standard phrases, such as 'in the best interest of the company'.... 'in our opinion'.... 'we believe that'.... and so on.	2
c. Future assurance of compliance	When a firm reports that it will implement a *Code* provision in the following year or in the near future.	2
d. Description of alternative practices	When a firm is non-compliant with a particular *Code* provision but offers alternative corporate governance mechanisms adopted by the firm.	3
e. Partial non-compliance	When a firm is non-compliant over a specific period of time during the reporting period or it fails to implement all aspects of a specific *Code* provision.	4
f. Firm-specific or context specific detailed explanations	When a firm provides detailed explanations about its specific context, such as: (a) company size; (b) board size; (c) company structure; (d) company foreign listings or its international operations; (e) industry or market related specific explanations; (f) implementation issues or ineffectiveness of *Code* provision; and (g) *Code* conflicts with laws.	5
g. Total number of explanations reported by a firm	The total number of explanations reported by a firm, in response to non-compliance with different provisions of the *Code*.	

Based on the criteria in Table 3.4 and consistent with Hooghiemstra (2012), a 'comply or explain' index is developed for each firm in the sample using the following formula:

'Comply or explain' index = 1(no explanations) + 2(generic or standard explanations + assurance of future compliance) + 3(description of alternative practice) + 4(partial non-compliance) + 5(firm-specific detailed explanations)/Total number of explanations reported by a firm.

Here, a score of 1 to 5 is the weighting given to the number of explanations in each category, based on the relative informativeness of each category. A higher score on the index shows the effectiveness of corporate governance mechanisms (in terms of compliance) as well as the quality of corporate governance disclosure (quality of reported explanations). For instance, if a firm (e.g., company A) is non-compliant with three provisions of the corporate governance code and it provides 'no explanation' for each deviation, the 'comply or explain' index will be:

'Comply or explain' index = 1(3) + 2(0) + 3(0) + 4(0) + 5(0)/3 = 1

Where, a score of 1 to 5 in the numerator is the weighting given to each category; the number of explanations in 'no explanations' category is 3; zero indicates the absence of a particular category of explanation; and 3 in the denominator represents the total number of explanations reported by a firm.

Similarly, if a firm (e.g., company B) is non-compliant with three provisions but justifies its position by providing firm-specific detailed explanation, the 'comply or explain' index will be:

'Comply or explain' index = 1(0) + 2(0) + 3(0) + 4(0) + 5(3)/3 = 5

In the above two examples, the two hypothetical companies are non-compliant with three provisions of the *Code.* However, based on the different types of explanations that they provide, the 'comply or explain' index is 1 for company A and 5 for company B. This shows that the quality of corporate governance disclosure (explanations) of company B is better than

that of company A. A firm that is fully compliant with all provisions of a *Code* receives a highest score of 5 on the 'comply or explain' index.

In the context of agency theory (Jensen and Meckling, 1976) and in line with the empirical research on corporate governance and firm performance (e.g., Gompers et al., 2003; Klapper and Love, 2004; Durnev and Kim, 2005; Beiner et al., 2006; Aggarwal et al., 2010; Hooghiemstra, 2012), it is argued that full compliance with the corporate governance codes or better corporate governance disclosure (as measured by the quality of reported explanations for non-compliance) has a positive impact on a firm's financial performance. In this regard, the following hypothesis is developed.

H1: Full compliance with the corporate governance codes or better corporate governance disclosure (as measured by the quality of explanations for non-compliance) is positively related with a firm's operating and financial performance in the UK and Germany.

3.6.2 Board size

Chapter 2 provides a theoretical link between various internal corporate governance mechanisms, including the board size and a firm's performance. Jensen (1993) suggests that an appropriate board size comprises eight to ten directors. This is because larger boards are ineffective in terms of slow decision making and higher monitoring costs (Jensen, 1993). On the other hand, a larger board provides a link between the organisation and its external resources (e.g., Zahra and Pearce, 1989).

The UK Corporate Governance Code (Financial Reporting Council, 2012b) does not explicitly recommend any specific board size for listed companies in the UK. For instance, Section A of *The UK Corporate Governance Code* (Financial Reporting Council, 2012b) recommends that 'every company should be headed by an effective board which is collectively responsible for the long-term success of the company' (Financial Reporting Council, 2012b, p. 6). This shows that companies have been given the option to expand or reduce their board size, keeping in view the cost and benefits of a larger and smaller board, and also keeping in consideration the complex nature of their operations. On the other hand, German law only specifies the percentage of employees to be represented on the German supervisory boards and also remains silent about the appropriate size of corporate boards in Germany. For instance, the *German Codetermination Act*[48] requires at least one third to one half of employees to be represented on the supervisory boards of companies having more than 500 or 2,000 employees respectively (Commission of the German Corporate Governance Code, 2012c, p. 1).

The average board size of UK firms is usually small, varying from 7 to 17 directors (Guest, 2009, p. 32). On the other hand, the German boards are relatively larger, with an average board size of 15 directors (De Andres et al., 2005). Empirical research on the relationship between board size and firm performance is inconclusive. For instance, the results reported in earlier studies have shown one of the two findings: (i) a significantly positive relationship (e.g., Kiel and Nicholson, 2003; Beiner et al., 2006); or (ii) a significantly negative relationship (e.g., Yermack, 1996; De Andres et al., 2005; Guest, 2009).

[48] Under the *German Codetermination Act 1976*, 'codetermination' refers to employees representation on the supervisory boards of German listed companies (Du Plessis et al., 2012, p. 151).

From an agency theory perspective, it is argued that larger boards are ineffective in terms of slow decision making and higher monitoring costs. When board size increases beyond ten directors, it creates additional costs for the organisation in the form of slow decision making (Lipton and Lorsch, 1992). Psychologists also recommend that a smaller board between eight and ten directors could be ideal in terms of timely decision making, while larger boards may be subject to boardroom politics (Tricker, 2012). In a period of economic crisis, the costs of larger boards may negatively affect a firm performance. This argument is also supported by the existing literature on corporate governance (e.g., Pathan and Faff, 2013). Therefore, in line with the assumptions of agency theory, the following hypothesis is developed:

H2: Board size is negatively associated with firm operating and financial performance in the UK and Germany.

3.6.3 Board structure

Board structure is defined as the ratio of independent non-executive directors to total board members. The previous chapter discussed the theoretical link between independent non-executive directors and firm financial performance. For instance, agency theory suggests that boards with more independent non-executive directors enhance the monitoring efficiency of a firm and that this subsequently reduces the agency costs (Fama, 1980). Keeping in view their monitoring role, the appointment of independent non-executive directors on board has been widely acknowledged in different corporate governance codes around the world. For instance, the *Cadbury Report* (1992) called for at least three independent non-executive directors. Recently, the required percentage of non-executive directors has been significantly increased and *The UK Corporate Governance Code* of 2012 requires that, at least half of the board of

FTSE 350 companies should be comprised of independent non-executive directors (Financial Reporting Council, 2012b). In German firms, at least half of the members of the supervisory boards are selected from among the employees and the remaining members are appointed by the shareholders. The supervisory board, which comprises non-executive directors, is exclusively responsible for monitoring and advising the management board (Davies, 2000). Therefore, it can be argued that a mix of shareholders and employees represented on the supervisory board enhances the monitoring function of the supervisory board.

In the UK, the monitoring function of non-executive directors include: (a) examining the integrity of financial information; (b) determining executive remuneration; (c) risk management; (d) appointing, and where necessary, removing executive directors; and (e) a succession planning for the board (Financial Reporting Council, 2012b, p. 10). In addition, the *Code* also requires that non-executive directors should constructively challenge, and also help in, the development of corporate strategy. Effective monitoring in these areas is only possible if non-executive directors carefully perform their duties in such a way as recommended by the *Code,* and allocate sufficient time and levels of commitment to their companies. Section B.3.3 of *The UK Corporate Governance Code* of 2012 imposes regulatory restrictions on non-executive directors in that they cannot hold more than one non-executive directorship in any of the FTSE 100 constituent firms. Such wider engagement may affect the monitoring role of the non-executive directors. In Germany, Section 5.4.5 of the *German Corporate Governance Code* of 2012 stipulates that 'members of the management board of a listed company shall not accept more than a total of three supervisory board mandates in non-group listed companies or in

supervisory bodies of non-group companies which make similar requirements' (Commission of the German Corporate Governance Code, 2012c , p. 12)

Empirical evidence shows mixed results about the relationship between non-executive directors and firm performance. One strand of the empirical literature finds that boards with more non-executive directors deliver better financial performance. For instance, Zahra and Pearce (1989) find that a greater proportion of independent non-executive directors is positively correlated with a firm's performance. Some studies have reported a negative relationship between non-executive directors and firm financial performance (e.g., Guest, 2009). Guest (2009) argues that adding more non-executive directors does not bring additional expertise to the board and that this may not only increase the existing size of the board but may also result in some unnecessary costs to the firm. On the other hand, some studies find no relationship between non-executive directors and firm performance. For instance, De Andres et al. (2005) did not find any significant relationship between the representation of non-executive directors and firm performance for a sample of 450 firms from the Anglo-Saxon and Continental European corporate governance systems. Moreover, in a recent study, Wintoki et al. (2012) used board structure data for 6,000 US firms over the period 1991–2003 and found no relationship between the presence of non-executive directors on the board and firm performance. They argue that prior corporate governance studies did not take into account the endogeneity factor, as methods used in prior research failed to control for different kinds of endogeneity issues.

From an agency theory perspective, it is expected that the proportion of non-executive directors is positively associated with the performance of firms. *The UK Corporate Governance*

Code and *The German Corporate Governance Code* emphasise a greater role for non-executive directors. Keeping in view the recommendations of the corporate governance codes in the UK and Germany, and based on the assumptions of agency theory, the following hypothesis is developed:

H3: The proportion of independent non-executive directors is positively associated with firm operating and financial performance for UK and German firms.

3.6.4 Number of board meetings

Board activity is a key element of an effective corporate board. As discussed in the literature review section, board activities (measured by the total number of board meetings during a year) may enhance a firm's performance. From a resource dependence theory perspective, the time spent by the board could be considered as a resource to the organisation (Lipton and Lorsch, 1992), while agency theory emphasises that increasing board activities could enhance the monitoring and control function of the board of directors. According to Section B.3 of *The UK Corporate Governance Code* of 2012, the directors should allocate sufficient time to their own companies and they should not be allowed to hold multiple non-executive directorship in any of the FTSE companies (Financial Reporting Council, 2012b). *The German Corporate Governance Code* of 2012 also requires supervisory board members to allocate sufficient time to their companies to discharge their responsibilities effectively (Commission of the German Corporate Governance Code, 2012c, p. 12).

Empirical evidence on the relationship between the number of board meetings and firm performance is inconclusive. Vafeas (1999) finds that the frequency of board meetings has a positive effect on a firm's operating performance. In the context of the 2007 financial crisis,

Brick and Chidambaran (2010) have also reported a positive relationship between board meetings and firm performance. They argue that external market pressures from investors and regulators may significantly influence a firm's management so as to increase its board activities, which have had a positive impact on a firm's performance.

Overall, the above arguments suggest that increasing the number of board activities could be beneficial for the organisation from the perspective of an agency theory and a resource dependence theory. Prior research (Vafeas, 1999; Brick and Chidambaran, 2010) has also documented a positive relationship between the frequency of board meetings and firm performance. Consistent with prior research (Vafeas, 1999; Brick and Chidambaran, 2010) and keeping in view the recommendations of *The UK Corporate Governance Code* and *The German Corporate Governance Code*, it is expected that there will be a positive relationship between the number of board meetings and firm performance.

Therefore, the following hypothesis is developed:

H4: The number of board meetings variable is positively associated with firm operating and financial performance for UK and German firms.

3.6.5 Gearing

Jensen (1986, p. 323) suggests that debt financing (gearing) can increase the level of monitoring over self-serving managers and that it can be used as an alternative corporate governance mechanism. Jensen argues that managers are likely to invest free cash flow in low-

return projects instead of paying it to the owners. This creates a conflict of interests[49] between owners and managers, particularly when a firm is generating substantial free cash flows (Jensen, 1986). However, debt financing can restrain managers from diverting free cash flow to low-return projects because the firm has the primary liability to pay the interest and principal obligations on the credit. Therefore, the use of debt increases the value of the firm because debt financing provides signals that the managers are willing and able to distribute free cash flow and to be monitored by the creditors (Beiner et al., 2006, p. 256). Another argument can be made from a capital structure perspective that interest payments are tax deductible and therefore the value of a geared firm is higher than the value of an ungeared firm. In the context of Germany, where banks play a significant role in the German corporate governance structure, Agarwal and Elston (2001, p. 226) argue that:

> 'Bank-influenced firms should enjoy increased access to capital through easier access to bank debt or preferential terms on loans. In addition, bank involvement with a firm serves as a signal to outside investors and causes a certification effect, which makes it easier for firms to attract additional equity'.

The presence of debt financing could create a conflict of interests between shareholders and creditors, which may increase the agency costs to the firm. According to Agarwal and Elston (2001), when a firm faces financial constraints, banks may ask for the issue of additional equity shares to repay the loan or may influence the use of equity capital rather than debt financing for more risky projects and vice versa. A conflict of interests also arises when a bank attempts to share firm-specific or industry-related private information with the firm's competitors to maximise its own benefits. This may happen when banks provide financing facilities to different firms in the same industry (Agarwal and Elston, 2001).

[49] Also known as 'the agency costs of free cash flow' in the finance literature.

Empirical evidence on the relationship between debt financing and firm performance is inconclusive. Some studies have reported a negative relationship between debt financing and firm performance (e.g., Agarwal and Elston, 2001; Bauwhede, 2009; Francis et al., 2012). These studies confirm the presence of a conflict of interests between shareholders and creditors in highly geared companies. For this study, gearing is defined as a ratio of a firm's total debt to the book value of its total assets.

On the other hand, using a sample of 280 German firms, Gorton and Schmid (2000) find a positive relationship between debt financing and firm operating and financial performance. Explaining the causes of this positive relationship, they argue that German banks provide substantial financial support to German firms and their representations on the supervisory boards of German listed companies also increase their incentive for additional monitoring and control. Other studies (Beiner et al., 2006; Goncharov et al., 2006) also report a positive relationship between debt financing and firm performance. These studies show that debt holders require additional internal control mechanisms (through debt agreements) beyond those implemented by the firm. In the context of the UK, McKnight and Weir (2009) have also reported positive relationship between debt financing and the performance of firms.

After the 2007 financial crisis, banks and financial institutions have tightened their lending policies, asking for strict terms and conditions (Bae et al., 2012). Based on the free cash flow hypothesis, suggesting a stronger monitoring role of gearing (Jensen, 1986) and consistent with prior empirical research (Gorton and Schmid, 2000; Beiner et al., 2006; Goncharov et al., 2006), it is expected that there will be a positive relationship between gearing and firm performance.

H5: There is a positive relationship between gearing (as measured by the ratio of a firm's total debt to the book value of its total assets) and firm operating and financial performance for UK and German firms.

3.6.6 Ownership structure (blockholders' ownership)

Section 2.6 provides a review of prior empirical studies on the relationship between ownership structure and firm performance. In the context of this thesis, ownership structure refers to external shareholders who own at least five per cent or more shares of the equity of a company. The five per cent threshold for external blockholders is consistent with prior empirical studies (Fidrmuc et al., 2006; Thomsen et al., 2006) and Section 3.3 justifies the reasons for choosing a minimum of five per cent threshold.

Sections 2.3, 2.5 and 2.6 discuss the theoretical arguments for and against the monitoring role of external blockholders. Shleifer and Vishny (1986) argue that large corporations with dispersed shareholders have free-rider issues. They suggest that a concentrated ownership structure can partly mitigate the free-rider issues in large corporations, as blockholders have a financial incentive to closely monitor a firm's managers. However, large shareholders in a concentrated ownership system used to availing of 'private benefits of control' that may not necessarily benefit all shareholders' (Franks and Mayer, 1997; Denis and McConnell, 2003).[50] Such expropriations of minority shareholders' rights create a conflict of interest between large shareholders and minority shareholders and may negatively affect the performance of firms. Empirical studies that report a negative relationship between external

50. Private benefits are those benefits which are received by large shareholders, but such benefits are not equally shared by other common stockholders, for instance, the approval of excessive perquisites for the directors representing large blockholders (Denis, 2001).

blockholders and the performance of firms confirm a conflict of interest between minority shareholders and majority shareholders. Thomsen et al. (2006) reported a negative relationship between blockholders' ownership and firm performance and valuation for firms operating in a relationship-based system of corporate governance.

The governance literature shows mixed evidence about the impact of institutional and non-institutional blockholders' ownership on the performance of firms. For instance, some studies find that institutional blockholders' ownership has a positive impact on the performance of firms (Gorton and Schmid, 2000; Lehmann and Weigand, 2000), while other studies report a positive relationship between non-institutional blockholders' ownership and the performance of firms (Andres, 2008).

Empirical evidence also shows that similar to dispersed shareholdings, blockholders' dispersion also reduces the ability of larger shareholders to control a firm's management (Konijn et al., 2011). The findings imply that small and dispersed blockholders may be unable to challenge effectively the powers of large blockholders (Konijn et al., 2011, p. 1339).

Studies on the effectiveness of ownership concentration are specifically carried out in the context of the major corporate governance system, such as the UK (e.g., Leech and Leahy, 1991; Short and Keasey, 1999; O'Sullivan, 2009), the USA (e.g., Agrawal and Knoeber, 1996) and Germany (e.g., Gorton and Schmid, 2000; Lehmann and Weigand, 2000; Andres, 2008). Empirical studies have also examined the impact of external blockholders in two contrasting corporate governance systems (Anglo-Saxon vs. relationship-based systems) (Franks and Mayer, 1997; Thomsen et al., 2006; Gugler et al., 2008). The majority of the previous studies

has reported a positive relationship between external blockholdings and the performance of firms (Shleifer and Vishny, 1986; Leech and Leahy, 1991; Agrawal and Knoeber, 1996; Gorton and Schmid, 2000; Andres, 2008).

Following the theoretical proposition of Shleifer and Vishny (1986) and consistent with prior empirical work carried out in the UK, Germany and other countries (Gorton and Schmid, 2000; Andres, 2008; O'Sullivan, 2009), this study expects a positive relationship between the percentage of shares owned by external blockholders and the performance of firms. Therefore, the following hypothesis is developed:

H6: There is a positive relationship between the percentage of shares owned by external blockholders (institutional shareholders, non-institutional shareholders) and firm operating and financial performance for UK and German firms.

3.7 Control variables

Control variables are observable firm-specific and industry-specific characteristics that could have a significant influence on a firm's performance. The control variables used in this study are: (a) firm size; (b) firm-specific risk; (c) foreign listing; and (d) industry dummies.

3.7.1 Firm size

Larger firms have 'severe' agency issues and it is difficult to monitor them as compared with smaller firms (Beiner et al., 2006, p. 253). Similarly, different corporate governance arrangements are also affected by a firm's size (Wintoki et al., 2012). For instance, it is common that larger firms have larger boards, which increases the monitoring costs and affect a firm's value. Various studies (e.g., Durnev and Kim, 2005; Schultz et al., 2010) have reported a

negative relationship between firm size and Tobin's Q and return on assets (hereafter ROA). For the purpose of this research, the natural logarithm of the book value of a firm's assets at the end of a financial period will be used as a proxy for a firm's size (Chhaochharia and Laeven, 2009; Aggarwal et al., 2010). Therefore, it is expected that there will be a negative relationship between firm size and firm operating performance (ROA) and financial performance (Tobin's Q).

3.7.2 Foreign listing

As argued in the literature review section, legal systems around the world provide different kinds of protection to investors (La Porta et al., 1998). Therefore, a firm listed in a country with strong legal protection (such as common law countries) will have to ensure more investor protection than a firm listed in a country with a weak legal protection for investors. Prior research (e.g., Klapper and Love, 2004) has also reported a significantly positive relationship between a foreign listing and a firm's financial performance. Similarly, in the context of the 1997–1998 Asian financial crisis, Mitton (2002) also found that foreign-listed firms have a higher quality of disclosure and higher stock returns. Therefore, it is expected that there will be a positive relationship between foreign listing (proxied by a dummy variable that will take a value of one if a firm is cross-listed or zero otherwise) and a firm's performance.

3.7.3 Firm-specific risk

Variation in firm-specific risk can cause variation in the governance structure of a company because 'it is a potential indicator of the level of information asymmetry that exists between management and shareholders' (Schultz et al., 2010, p. 154). In the context of the recent financial crisis, Beltratti and Stulz (2011, p. 7) argue that managers in a well-governed

company are likely to avoid risks that may negatively affect shareholders' value. Schultz et al. (2010) have found a negative relationship between firm-specific risk (measured by beta) and firm performance (as measured by ROA and Tobin's Q). Using a sample of 288 companies Bromiley (1991) finds a negative relationship between corporate risk taking and the performance of firms. Bromiley (1991) argues that poor financial performance increases a firm's risk exposure, which results in further poor performance. In line with prior research (Beiner et al., 2006; Schultz et al., 2010), this study will use firm-specific beta as a proxy for firm-specific risk. Therefore, it is expected that there will be a negative relationship between firm-specific risk (beta) and firm performance. Data on firm-specific betas will be taken from DataStream, which is calculated by a least squares regression between adjusted share prices and the corresponding DataStream market index (Beiner et al., 2006).

3.7.4 Industry dummies

Firm-specific or internal corporate governance mechanisms vary across different industries (Klapper and Love, 2004, p. 704). Consistent with prior studies (Klapper and Love, 2004; Beiner et al., 2006), industry dummies will be included to control for the 15 major industries as shown in Table 3.2. Another reason for including industry dummy variables is to capture potential 'unobserved heterogeneity' at the industry level and its impact on a firm's performance across the UK and Germany (Klapper and Love, 2004, p. 714).

3.7.5 Research and development expenditure

Research and development expenditure (hereafter R&D) has been included as a control for three reasons. First, the majority of the companies in the UK and German sample are from those industries which require significant R&D investment, such as chemical, health and

pharmaceutical, oil and gas, technology and telecommunications sectors. Second, the sample firms include larger firms and larger firms will invest more in R&D expenditure (Beiner et al., 2006). The inclusion of R&D expenditure will therefore capture a firm's growth opportunities. Empirical evidence on the relationship between R&D expenditure and firm performance is inconclusive. For instance, Aggarwal et al. (2010) argue that investment in R&D creates a positive impact on shareholders' wealth. Aggarwal et al. (2010) find that firms with higher R&D expenditure have higher corporate governance ratings as measured by a corporate governance index. Following prior empirical research (e.g., Durnev and Kim, 2005; Guest, 2009; Aggarwal et al., 2010; Ammann et al., 2011), this study includes R&D expenditure as a control variable, as measured by research and development expenditure divided by sales. It is expected that R&D expenditure will be positively associated with a firm's operating and financial performance.

3.8 Dependent variables: firm performance

Two dependent variables included in this study are: (a) a firm's operating performance (return on assets); and (b) financial performance (Tobin's Q). The accounting-based measure of performance (ROA) is selected because it is a superior measure of a firm's operating performance as compared with the return on equity (ROE). For instance, the income measure (operating income) used in the computation of ROA is less affected by extraordinary items such as income from asset disposals (Bauwhede, 2009, p. 498). Second, the selection of this specific measure of accounting performance is also in line with prior studies (e.g., Yermack, 1996; Klapper and Love, 2004; Beiner et al., 2006). For the purpose of this study, ROA is defined as operating income divided by total assets at the end of a financial year (Yermack, 1996). As

suggested in the literature, a higher ROA indicates the effectiveness of firm-level corporate governance mechanisms and vice versa (Bauwhede, 2009, p. 497). A second measure of performance used in this study is Tobin's Q, which has been widely used in the corporate governance literature as a proxy for a firm's market valuation (e.g,. Yermack, 1996; Gompers et al., 2003; Bauer et al., 2004; Klapper and Love, 2004; Beiner et al., 2006; Chhaochharia and Laeven, 2009; Aggarwal et al., 2010; Ammann et al., 2011). A higher Tobin's Q ratio shows the ability of a firm's management to generate higher value for shareholders. Following Aggarwal et al. (2010), Tobin's Q will be calculated as:

$$= \frac{\text{(Total assets + Market value of equity – Total common equity – Deferred taxes)}}{\text{Total assets}}$$

Table 3.5 below provides a brief summary of these variables, and provides a definition for each variable used in the econometric model.

Table 3.5 Variables and definitions

Independent variables	
'Comply or explain' index	An index which assigns a value of 1 to 5 to each firm and takes into account a firm's compliance, non-compliance and the explanations reported for non-compliance with the corporate governance codes.
Board size	The total number of directors serving on the board at the end of the financial period.
Board structure	A measure of board independence which is a ratio of non-executive to total board members at the time of reporting.
Number of board meetings	The total number of board meetings during a year.
Gearing	A ratio of the firm's total debt to the book value of its total assets.
Institutional blockholders (%)	The percentage of equity (five per cent and above) owned by financial institutions, insurance companies, pension funds and unit trusts.
Non-institutional blockholders (%)	The percentage of equity (five per cent and above) owned by all other external shareholders (excluding institutional shareholders).
Control variables	
Firm size	The natural logarithm of the book value of a firm's assets.
Firm-specific risk (beta)	A measure of firm's riskiness. The beta factor is derived by performing a least squares regression between adjusted prices of the stock and the corresponding DataStream market index.
Foreign-listing	A dummy variable that takes a value of one if a firm is cross-listed or zero otherwise.
Industry dummy	Industry dummy variables are included to capture any industry fixed-effects on a firm's performance.
R&D expenditure	Research and development expenditure divided by sales.

Table 3.5 continued

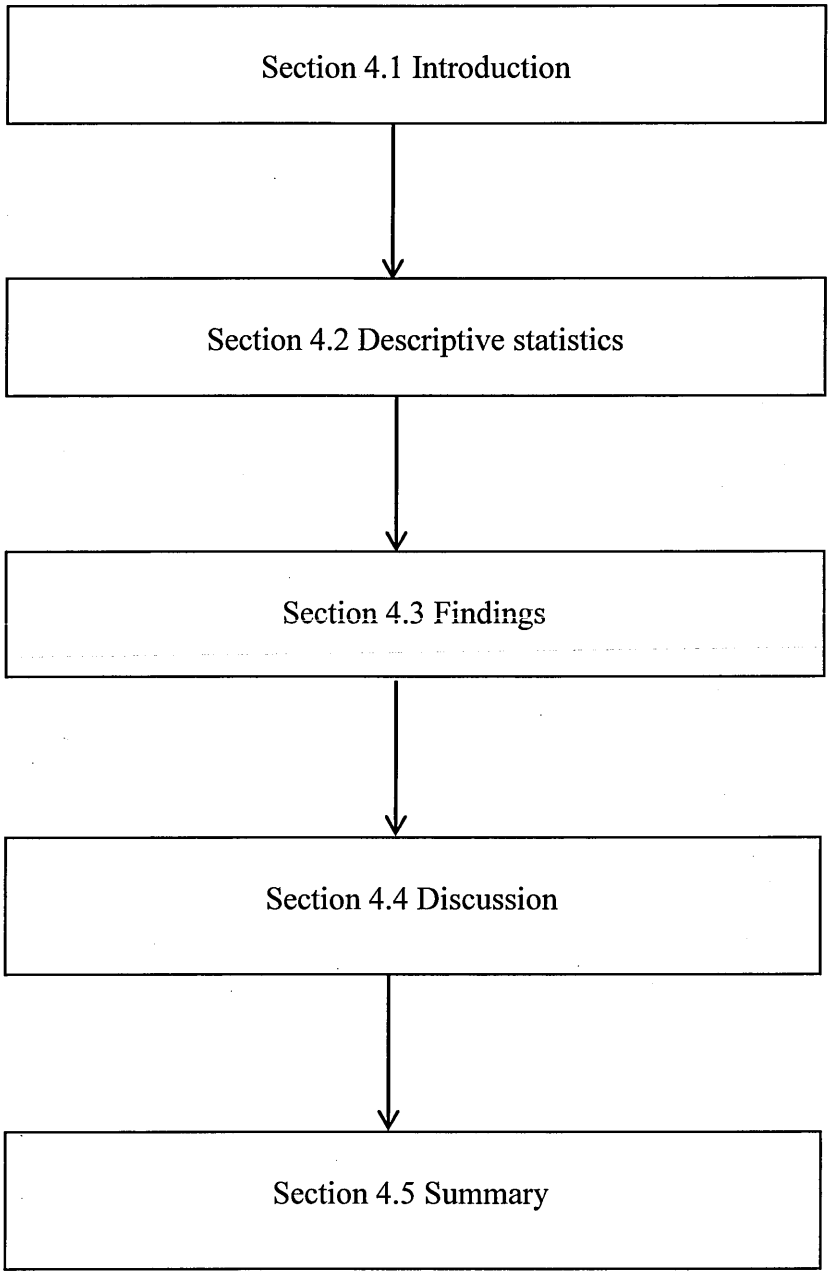
Dependent variables	
Operating Performance	
Return on assets (ROA)	Operating income divided by total assets at the end of a financial year.
Financial Performance	
Tobin's Q	(Total assets + Market value of equity – Total common equity – Deferred taxes)/Total assets.

3.9 Summary

This chapter has presented the research methodology, the sources of data and the sample selection procedures. Corporate governance and financial data will be collected from DataStream. The sample represents 120 firms from the UK and Germany over the period 2007–2011. Section 3.2 provided the philosophical assumptions and justifications behind the chosen research paradigm (e.g., positivist approach). A positivist research approach is adopted for this study, which aims to address the two research questions objectively and using quantitative approaches to test one or more theories. A quantitative content analysis approach is used to address the first research question, which examines the types, quality and pattern of explanations reported for non-compliance with *The UK Corporate Governance Code and German Corporate Governance Code*. The content analysis procedures have been explained in Section 3.4. Section 3.5 explained the econometric model, which is applied to address the second research question, which investigates the impact of internal corporate governance mechanisms on firm performance. Following Schultz et al. (2010) and Wintoki et al. (2012), this study will employ a generalised method of moments (GMM) model, which controls for different kinds of endogeneity problems. Section 3.6 presented the expected relationship between independent variables, control variables and the dependent variables.

The next chapter reports the findings from the content analysis of the UK and German corporate governance reports.

Chapter 4. Content analysis of the UK and German corporate governance reports



4.1 Introduction

This chapter presents the empirical results and it analyses the explanations reported for non-compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code.* The chapter examines the first research question presented in the literature review section – how do the types, quality and pattern of explanations for non-compliance with the corporate governance codes vary across the UK and Germany?

In order to answer the above research question, this chapter fulfils three main objectives. First, it examines and compares the level of compliance across the UK and German firms examined in this study. Second, the chapter classifies the reported explanations for non-complying firms into different categories and then provides a comparison between these two countries. Finally, the chapter also provides examples of individual firm-specific explanations that have been extracted from the corporate governance reports of the UK and German companies.

The sample consists of 120 non-financial firms selected from the UK and Germany for the period 2007–2011. As explained in the methodology chapter, a mechanistic (quantitative) content analysis approach is used for classifying and comparing the different categories of explanations reported by non-compliant firms in the UK and Germany.

The remainder of the chapter is organised as follows. Section 4.2 reports the descriptive statistics for the sample firms; Section 4.3 presents the findings by reporting the different categories of explanations taken from the corporate governance reports of UK and German firms; and Section 4.4 summarises the chapter.

4.2 Descriptive statistics

Table 4.1 below presents descriptive statistics, such as foreign listings, five years' average market capitalisation, average book value of total assets, average number of employees and the average number of equity shares issued, taken from DataStream at the end of a company financial year for the sample firms. Table 4.1 shows that the percentage of German and UK firms cross-listed in the United States are 25 per cent (15/60) and 23 per cent (14/60), respectively. However, the number of sample UK firms listed in Germany is 93.3 per cent (56/60),[51] which is significantly higher than 3.3 per cent (2/60) of the German firms listed on the London Stock Exchange, and because of these reasons the average market capitalisation for sample UK companies is relatively higher than that for German companies. Another reason could be that cross listed firms are likely to raise additional capital from overseas stock markets (Klapper and Love, 2004). Given this higher percentage of cross-listing across the UK and Germany, the final sample has been selected based on a company's primary listings in any of these two countries. In other words, any of the UK or German firms, which has been cross-listed in Germany or UK, has been excluded from the final sample selection in its secondary market.

[51] A good example of foreign listing is Anglo American plc, which has primary listings on the London Stock Exchange and is also listed in Germany, Switzerland, South Africa, Bostwana and Namibia.

Table 4.1 Descriptive statistics

	UK	Germany	Differences in mean *t*-values
New York Stock Exchange listing	14 (23%)	15 (25%)	
Cross-listing on the London Stock Exchange and Frankfurt Stock Exchange	56 (93.3%)	2 (3.3%)	3.63*
Firms with foreign listing in other markets (excluding the UK, USA and Germany)	11 (18.3%)	12 (20%)	
5 years' average market capitalisation (€ m., end of financial year)	77,563,541.23	51,775,308.80	1.52
5 years' average numbers of equity shares issued	6,846,664	1,431,722	0.93
5 years' average book value of total assets (€ m., end of financial year)	64,856,313	105,700,908	-1.42
5 years' average total number of employees	44,794	67,228	-0.46
Number of firms	60	60	-

Source: Data compiled from DataStream. The values for assets and market capitalisation are reported in a common currency (the euro). Average values are reported for the whole sample chosen from each country. * indicates that the results are statistically significant at 10 % level. The results indicate that the mean differences for the number of cross-listed firms in the UK and Germany are significantly different. This confirms the evidence shown in columns 2 and 3 above that the total number of cross-listed firms in the UK sample is higher than that in the German sample. Cross-listing was measured by a dummy variable, which takes a value of one if a firm is cross-listed and zero otherwise.

This will provide an opportunity to analyse separately and compare the quality of explanations reported by the domestic UK and German companies. Focusing only on the domestic companies, the findings would be helpful in understanding the impact of institutional differences on corporate governance disclosure of firms across these two countries. As presented in Table 4.1, the sample of UK and German firms exhibit differences in terms of average market capitalisation, number of equity shares issued, book value of total assets and

average total number of employees. However, these differences are statistically insignificant, which means that the sample UK and German firms share similar characteristics in terms of their size, as measured by their average market capitalisation, number of equity shares issued, book value of total assets and average total number of employees. This further justifies the sample selection criteria as discussed in the methodology chapter and it shows that the sample includes larger firms from the UK and Germany. The prevailing differences in legal systems, ownership structures, board structures and capital markets have been already debated in the literature review chapter. The next section presents the empirical results and explains how these differences have affected the level of compliance and the quality of explanations for non-compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code.*

4.3 Findings

The codes of corporate governance in the UK and Germany are based on the principle of 'comply or explain'. Companies in both countries are required to disclose their position on how they have implemented the code of best practice or otherwise explain and justify the reasons for any deviation. German companies are required by law to publish separately a 'declaration of conformity' and to disclose whether a company has fully complied or if not, list and explain the provision(s) with which it has not complied. In the case of the UK, the compliance statement is part of the corporate governance statement which is published in the company's annual report.

Table 4.2 below shows the level of compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code.* The results indicate that the level of compliance with the corporate governance codes has been significantly different across the UK

and Germany. During the sample period (2007–2011), the percentage of full compliance with the *German Corporate Governance Code* has decreased in the first four years. The highest percentage of full compliance with the *German Corporate Governance Code* is 21.7 per cent in 2007. On the other hand, on average, around 50.3 per cent of the samples of UK firms are fully compliant with the requirements of the *UK Corporate Governance Code* for the period 2007–2011. One possible reason for these significant differences in the compliance rate could be a result of the timing differences in the development and implementation of formal corporate governance codes in the UK and Germany. In the UK, the first corporate governance code was implemented in 1992. On the other hand, the German code of corporate governance came into force in July 2002. For the UK sample, the finding is consistent with a recent corporate governance review of FTSE 350 companies (see Grant Thornton, 2012, p. 8), which shows that the level of compliance in the UK remained at around 50 per cent during 2010, 2011 and 2012. A higher level of compliance in the UK could also be due to the fact that 93.3 per cent of the sample UK firms are cross-listed in Germany, and 23 per cent of the UK sample firms are listed in the United States. This finding is in line with the literature, which shows that firms listed on foreign stock exchanges are more likely to adopt strong corporate governance mechanisms because they are subject to additional disclosure requirements (Klapper and Love, 2004, p. 713).

Table 4.2 The level of compliance with *The German Corporate Governance Code* and *The UK Corporate Governance Code*

Panel A: German firms	**2007**	**2008**	**2009**	**2010**	**2011**
Total number of firms	60	60	60	60	60
Number of fully compliant firms	13	11	9	5	12
Percentage of fully compliant firms	21.7	18.3	15	8.3	20
Panel B: UK firms					
Total number of firms	60	60	60	60	60
Number of fully compliant firms	27	33	31	29	31
Percentage of fully compliant firms	45	55	51.7	48.3	51.7

For the remaining, non-complying firms, the reported explanations for non-compliance are classified in ten different categories. Ten categories are used because some of the categories already identified in the literature (Arcot and Bruno, 2011; Hooghiemstra and Van Ees, 2011; Hooghiemstra, 2012; Seidl et al., 2012) either overlap or there are only marginal differences between them. In addition, two new categories emerged after analysing the compliance statements, which makes the number of categories and the categorisation scheme different from previous studies. The two new categories are (a) partial non-compliance; and (b) assurance of future compliance. The ten categories are:

(1) Partial non-compliance;

(2) No explanation for non-compliance;

(3) Explanation of alternative corporate governance practices;

(4) Generic or standard explanation;

(5) Assurance of future compliance;

(6) Explanations regarding company size, board size or company structure;

(7) Explanations regarding a company's foreign listings or international operations;

(8) Company, industry or market related specific explanations;

(9) *Code* provision conflicts with laws; and

(10) Firm-specific issues with Code implementation or less effectiveness of the *Code* provision.

The content analysis procedures have been explained in Section 3.4. The literature review section (Section 2.3.1) also emphasised the importance of corporate governance disclosure and explained how corporate governance disclosure, particularly the quality of explanations for non-compliance with the *Code,* reduces the asymmetric information problems between owners and managers. The Financial Reporting Council in the UK encourages all investors (individual as well as institutional investors) to pay attention to the quality of explanations reported by non-compliant firms.

Table 4.3 below provides examples of each category of these explanations taken from the corporate governance reports of sample companies.

Table 4.3 Examples of different categories of justifications and explanations reported by non-compliant firms

Company/Year	Code recommendations	Explanations for non-compliance	Categories of explanation
SABMiller/ 2009	Provision A.3.2 of the *Combined Code* 2008. 'Except for smaller companies, at least half the board, excluding the chairman, should comprise non-executive directors determined by the board to be independent' (Financial Reporting Council, 2008, p. 8).	'For the first six weeks of the year, from 1 April to 14 May 2008, at least half the board, excluding the Chairman, were not independent for the purposes of the *Combined Code'*.	Partial non-compliance
Adidas AG/ 2007	Provision 3.8 of the *German Corporate Governance Code* 2006. 'If the company takes out a D&O (directors' and officers' liability insurance) policy for the management board and supervisory board, a suitable deduction shall be agreed' (Commission of the German Corporate Governance Code, 2006, p. 5).	'The D&O liability insurance for executive board and supervisory board members does not include a deduction'. This insurance policy provides protection for directors and officers of a company in the event of any actual or alleged error, omission, or breach of duty committed by the director or officer of a company.	No explanation for non-compliance
BMW/ 2007	Section 4.2.2 paragraph 1 of the *German Corporate Governance Code* 2006. 'At the proposal of the committee dealing with management board contracts, the full supervisory board shall discuss and regularly review the structure of the management board compensation system' (Commission of the German Corporate Governance Code, 2006, p. 6).	'The supervisory board has delegated the task of taking resolutions regarding the management board remuneration system, including the principal contractual components and the regular review of that system to the personnel committee'	Explanation providing alternative corporate governance practices

Table 4.3 continued

Lanxess AG/ 2011	Section 5.4.5 of the *German Corporate Governance Code* 2010. 'Members of the management board of a listed company shall not accept more than a total of three supervisory board mandates in non-group listed companies or in supervisory bodies of companies with similar requirements' (Commission of the German Corporate Governance Code, 2010, p. 11).	'Supervisory board member Robert J. Koehler, Chairman board of management of SGL Carbon SE, is a member of the supervisory boards of three listed companies outside the SGL group and holds one supervisory board mandate in a non-listed company. However, we do not believe that this detracts from Mr. Koehler's ability to perform diligently his duties as a member of the Lanxess AG Supervisory Board'.	Generic or standard explanation
Stada Arzneimittel/ 2011	Section 5.4.1 (2) of the *German Corporate Governance Code* 2010. Designing goals for the composition of the supervisory board' (Commission of the German Corporate Governance Code, 2010, p. 8).	'The supervisory board began the task of designing concrete goals for its composition and will submit these in due time before the next election of the supervisory board members'.	Assurance of future compliance
Oxford Biomedica/ 2011	Provision C.3.5 of the *UK Corporate Governance Code* 2010. 'The audit committee should monitor and review the effectiveness of the internal audit activities' (Financial Reporting Council, 2010a, p. 20).	'Due to the small size of the company, it has not been considered necessary to have an internal audit function'.	Explanations regarding company size, board size or company structure

Table 4.3 continued

SGL Group/ 2007	Provision 3.8 of the *German Corporate Governance Code* 2006. 'If the company takes out a D&O (directors' and officers' liability insurance) policy for the management board and supervisory board, a suitable deduction shall be agreed' (Commission of the German Corporate Governance Code, 2006, p. 6).	'The liability insurance taken out by the Company for the executive committee and supervisory board (D&O insurance) does not contain any deduction. We are generally of the view that the agreement of a deduction does not serve to enhance responsible action on the part of the executive committee and the supervisory board. Moreover, a deduction is not customary in foreign countries, nor is it customary for many German companies'.	Explanations regarding a company' foreign listings or international operations
Klockner and Company/ 2010	Section 4.2.3 of the *German Corporate Governance Code* 2009. 'The corporate governance report shall contain information on stock option programmes and similar securities-based incentive systems of the company' (Commission of the German Corporate Governance Code, 2009, p. 12).	'The virtual stock option programme (phantom stocks) for the management board does not make reference to comparison parameters because in Europe there are no suitable comparable companies in the steel distribution sector from which such comparison parameters could be derived'.	Company, industry or market related specific explanations
Lanxess AG/ 2011	Section 2.3.4 of the *German Corporate Governance Code* 2010. 'The company should make it possible for stockholders to follow the general meeting using modern communication media (e.g. Internet)' (Commission of the German Corporate Governance Code, 2010, p. 4).	'The speech by the Chairman of the board of management to the stockholders' meeting is broadcast on the internet. Continued broadcasting of the proceedings thereafter, particularly of contributions made by stockholders, could be seen as a violation of the stockholders' rights to privacy'.	Code provision conflicts with laws

Table 4.3 continued

Volkswagen AG/ 2008	Section 4.2.3 paragraph 4 of the *German Corporate Governance Code* 2007. 'In concluding management board contracts, care should be taken to ensure that payments made to a management board member on premature termination of his contract without serious cause do not exceed the value of two years' compensation (severance payment cap) and compensate no more than the remaining term of the contract' (Commission of the German Corporate Governance Code, 2007, p. 7).	'The recommended caps on severance payments in contracts for members of the board of management were not introduced, as there are doubts about the effectiveness of such contractual clauses in professional circles and this would reduce the ability of the supervisory board to act without offering significant advantages in view of the applicable legal situation'.	Firm-specific issues with Code implementation or less effectiveness of the *Code* provision

Source: Explanations for non-compliance taken from the compliance statements of UK and German companies over the period 2007–2011.

Based on the categories of explanations given in Table 4.3, the results for the German companies are reported in Table 4.4. The total number of explanations collected from the compliance statements are reported in absolute numbers, while each category of explanation represents a percentage of the total number of explanations reported by the sample firms in a given year. The last column in Table 4.4 and Table 4.5 highlights the five years' average for each category of explanation. The findings show that a total number of 777 explanations for non-compliance have been reported by the German firms, which is significantly higher than the corresponding 241 explanations provided by the sample UK firms, as reported in Table 4.5 (see final row in Table 4.5). An increase in the 'assurance of future compliance' category from 8.8 per cent in 2007 to 16.2 per cent in 2010 (Table 4.4, Category 5) indicates that some companies have shown interest in complying with the required provisions of the *Code* in the following year or in the near future. However, the majority of such kinds of explanations are repeatedly given in the compliance statements over the sample period 2007–2011. As a result, it is difficult to determine whether such promises about future compliance will be fulfilled in the near future or not. A number of companies in Germany has either commented on the *Code's* conflict with laws or societal norms, or on the ineffectiveness of the *Code* provisions. However, no such explanations have been found in the corporate governance statements of UK companies (refer to Table 4.5, Category 9). This finding is in line with the literature, which reveals that 'the German code of good governance includes some controversial, and not so popular, recommendations that are not followed by the majority of companies, such as personal liability and compensation of the management and/or supervisory board' (Bebenroth, 2005, cited in Aguilera and Cuervo-Cazurra, 2009, p. 384).

Other controversial aspects of the German code of corporate governance relate to the disclosure of management board and supervisory board members' remuneration – the *Code* requires disclosure of remuneration on an individual basis, while the Stock Exchange Admission Regulations require companies to publish its board remuneration on an aggregate basis (Goergen et al., 2008, p. 190). These controversial provisions in the German corporate governance code provide an apparent incentive for firms to deviate, which would potentially distort the quality of explanations because companies would constantly refer to these provisions while justifying their position for non-compliance (see an increase in category 9 from 4.7 per cent to 12.4 per cent in Table 4.4). As highlighted in Table 4.4, the percentage of 'no explanations for non-compliance' category is substantially decreased from 31.2 per cent in 2007 to 3.9 per cent in 2011. On the other hand, the percentage of 'generic or standard explanations'[52] has gradually increased from 20 per cent in 2007 to 34.1 per cent in 2011 (refer to Table 4.4, Category 4). In fact, the whole idea of the 'comply or explain' is undermined if companies do not provide high quality explanations for non-compliance with the recommended code provisions (Seidl et al., 2012, p. 23). This increase in the 'generic or standard explanations' category indicates that, irrespective of the corporate governance systems in different locations, non-compliant firms do exploit the 'explain' option and flexibility of the 'comply or explain' principle and they prefer to give the kind of explanations that can just fulfil the minimum disclosure requirements[53] of the regulators. Another possible explanation related to this high degree of uninformative explanations may be that non-compliance does not imply

[52] Explanations which provide generic statements, such as 'we believe that'...'in our opinion'....'in the best interest of the company', etc. These explanations are largely subjective and it is very difficult to determine the quality of these explanations.

[53] Until 2012, the Financial Reporting Council in the UK did not explicitly focus on the 'explain' element of the 'comply or explain' principle. The recent *UK Corporate Governance Code* of 2012 provides guidelines on what constitutes an acceptable explanation and what does not (Financial Reporting Council, 2012b).

bad governance if a firm implements an alternative and better governance practices instead of those provisions being recommended by the *Code*. However, failure to provide informative explanations would be considered a signal of poor corporate governance disclosure (Hooghiemstra and Van Ees, 2011, p. 492).

Table 4.4 Percentage of different categories of explanations for a sample of 60 German companies over the period 2007–2011

Categories of explanations	2007	2008	2009	2010	2011	5 years' average (2007–2011)
	%	%	%	%	%	%
1. Partial non-compliance	1.2	0.6	0.0	4.5	2.3	1.7
2. No explanations for non-compliance	31.2	29.3	23.1	7.8	3.9	19.9
3. Explanations providing alternative corporate governance practices	8.8	14.0	8.8	11.0	10.1	10.6
4. Generic or standard explanations	20.0	23.2	24.4	26.0	34.1	25.1
5. Assurance of future compliance	8.8	6.1	16.3	16.2	11.6	11.7
6. Explanations regarding company size, board size or company structure	10.6	5.5	3.8	4.5	7.8	6.4
7. Explanations regarding a company's foreign listings or international operations	2.4	1.8	1.9	2.6	2.3	2.2
8. Company, industry or market related specific explanations	10.6	10.4	10.6	0.0	14.0	11.8
9. Code provision conflicts with laws	4.7	7.3	9.4	10.4	12.4	8.6
10. Firm-specific issues with *Code* implementation or less effectiveness of the *Code* provision	1.8	1.8	1.9	2.6	1.6	1.94
Total number of reported explanations for non-compliance	170	164	160	154	129	777

Source: Data derived, categorised and quantified from the corporate governance statements of 60 German non-financial companies reporting between Januar 2007 and December 2011.

As reported in Table 4.4 on the previous page and Table 4.5 on the following page, the percentage of firm-specific explanations or more informative explanations is relatively low compared with 'generic or standard explanations' and 'no explanations' categories in both countries. However, the overall percentage of firm-specific explanations or more informative explanations is comparatively higher in the UK. The idea of voluntary self-regulation (through 'comply or explain') is to give a choice to firms if they can alternatively implement strong internal corporate governance mechanisms, in response to those provisions recommended by a code of corporate governance, thereby avoiding a one-size-fits-all approach to corporate governance (Hooghiemstra and Van Ees, 2011). However, repeated non-compliance with 'no explanation' or 'standard explanation' would mean that firms have chosen a one-size-fit-all approach to the explanations for non-compliance.

Table 4.5 shows the different categories of explanations for a sample of 60 non-financial UK firms over the period 2007–2011. The table indicates that partial non-compliance (temporary deviation) with the *UK Corporate Governance Code* has significantly increased from 1.9 per cent in 2007 to 13.6 per cent in 2011 (refer to Category 1). Hooghiemstra and Van Ees (2011, p. 492) argue that firms may temporarily deviate from a *Code* provisions and the external market players (such as a firm's shareholders and media groups) are likely to accept it as a 'legitimate explanation', keeping in view the size and complex structure of the organisation.

Table 4.5 Percentage of different types of explanations for a sample of 60 UK companies over the period 2007–2011

Categories of explanations	2007	2008	2009	2010	2011	5 years' average (2007–2011)
	%	%	%	%	%	%
1. Partial non-compliance	1.9	0.0	14.6	18.4	13.6	9.7
2. No explanations for non-compliance	14.8	15.2	18.8	14.3	25.0	17.6
3. Explanations providing alternative corporate governance practices	5.6	6.5	6.3	8.2	2.3	5.8
4. Generic or standard explanations	44.4	43.5	31.3	24.5	15.9	31.9
5. Assurance of future compliance	1.9	4.3	2.1	6.1	9.1	4.7
6. Explanations regarding company size, board size or company structure	11.1	10.9	12.5	12.2	15.9	12.5
7. Explanations regarding a company's foreign listings or international operations	1.9	0.0	0.0	0.0	0.0	0.4
8. Company, industry or market related specific explanations	18.5	19.6	14.6	0.0	18.2	14.9
9. *Code* provision conflicts with laws	0.0	0.0	0.0	0.0	0.0	0.0
10. Firm-specific issues with *Code* implementation or less effectiveness of the *Code* provision	0.0	0.0	0.0	0.0	0.0	0.0
Total number of reported explanations for non-compliance	54	46	48	49	44	241

Source: Data derived, categorised and quantified from the corporate governance statements of 60 UK non-financial companies reporting between January 2007 and December 2011.

The findings indicate that no company in the UK has commented on the *Code* provision being in conflict with other laws or about the ineffectiveness of the *Code* provision. A similar finding has been reported by Seidl et al. (2012, p. 17) and they argue that such implementation and compatibility issues arise when the *Code* itself or any of its provisions are new to the firm. Seidl et al. (2012, p. 18) further explain that 'the longer a code and its individual code provisions have been in place the more likely it is that these issues will have been resolved'. In the context of the UK, it can be argued that since 20 years has passed since the *Cadbury Report* (1992) and the Financial Reporting Council has regularly engaged all stakeholders (investors and companies) in the consultation process when developing and amending the *Code* therefore, with the passage of time no such conflicting provisions now exist in the UK code of corporate governance.

When analysing the corporate governance reports, a new category of explanation ('assurance of future compliance') emerged from the compliance statements. In some cases, companies repeatedly give assurance to the investors' community that in future they will comply with a particular *Code* provision. For instance, the 2008 compliance statement of Wacker Chemie AG explains a deviation regarding the 'severance pay cap'[54] as recommended by the *German Corporate Governance Code* 2007 (Commission of the German Corporate Governance Code, 2007) in the following way:

> '*With regard to new appointments to the executive board as well as the re-appointment of executive board members, we will comply with this recommendation of the Code'.*
> (Wacker Chemie AG, 2008)

[54] Provision 4.2.3 paragraph 4 of the *German Corporate Governance Code* 2007 requires that 'in concluding management board contracts, care shall be taken to ensure that payments made to a management board member on premature termination of his contract without serious cause do not exceed the value of two years' compensation (severance payment cap) and compensate no more than the remaining term of the contract'.

Interestingly, the same explanation giving assurance of future compliance to investors is consistently repeated from 2008 to 2011 and no specific time frame is provided by the company. On the other hand, some companies clearly indicate at the beginning that in future they will not comply with a specific *Code* recommendation. For example, in response to the *Code* recommendation to award fixed as well as performance-based compensation to the supervisory board members, Fresenius Medical Care AG (a German company) provides the following explanation in its 2007 compliance statement:

> *'Fresenius Medical Care AG does not pay any performance-related compensation to the members of the supervisory board in addition to the annual fixed compensation. For now, we do not intend to deviate from this compensation procedure as a performance-related compensation linked to the long term performance of the company is not common in our worldwide competitive environment'.* (Fresenius Medical Care AG, 2007)

In the above case, the company also refers to the global context of its operation and hence it does not consider the *Code's* provision being compatible with regulations in different regions of the world. In this particular case, the company consistently deviates from the required provision of the *Code* over the period 2007–2011.

Good governance practices (in terms of compliance with the corporate governance codes) provide positive signals to the capital markets, which gives an opportunity for firms to report better governance, which may potentially compensate the firm in the form of various external benefits. For example, Kingfisher PLC provides the following explanation in its 2011 corporate governance statement:

> *'The Board has agreed to voluntarily adopt the following principles ahead of the implementation of the new Code: (a) all directors will stand for re-appointment at the company's annual general meetings with effect from 2011; and (b) the*

evaluation of the board will be externally facilitated at least once every three years, commencing with the review carried out in 2010'. (Kingfisher PLC, 2011)

The explanation provided in the Kingfisher PLC (2011) compliance statement indicates that a firm may adopt good governance practices beyond those required by the existing recommended code of best practice. This may also give an assurance that the company would be likely to adopt the *Code's* provision in the following year.

In some circumstances companies do provide convincing explanations to justify their position and argue that the *Code* provision cannot be implemented owing to conflict with laws or societal norms. For example, the 2010 compliance statement of Fresenius Medical Care AG provides the following explanation for non-compliance with the 'severance pay cap' provision of the *Code*:

'Such severance payment arrangements would be contrary to the concept practiced by Fresenius Medical Care in accordance with the German Stock Corporation Act, according to which employment contracts of the members of the management board are, in principle, concluded for the period of their appointment. Therefore, a premature termination of the employment contract in principle requires a serious cause'. (Fresenius Medical Care AG, 2010)

For non-compliance with a similar recommendation of the Code (severance cap), two companies (i.e., Fresenius Medical Care AG and Wacker Chemie AG) have provided different explanations, which provides a good comparison of explanations across different firms.

The quality of explanations for non-compliance may also be driven by other external factors, such as a firm's competitors operating in a same 'comply or explain' environment. Hooghiemstra and Van Ees (2011, p. 492) find that 'similar to compliance, explanations for non-compliance appear not to be idiosyncratic to a specific firm but tend to be similar across clusters of firms operating in the same organizational field'. For this study, an example would

be Axel Springer AG, which does not disclose its board remuneration on an individual basis and provides the following explanation for non-compliance over the period 2007 to 2009:

> *'Such itemized information is not disclosed because as the competitors of Axel Springer AG also do not publish any such information'.*
>
> (Axel Springer AG, 2007)

In addition, some explanations in the compliance statements are very brief and uninformative. A good example is Lanxess AG, which has a long record of non-compliance with Section 3.8, paragraph 2 of *The German Corporate Governance Code 2006* (Commission of the German Corporate Governance Code, 2006). The *Code* recommends: 'if a company takes out a directors' and officers' liability insurance policy for its management board and supervisory board, a suitable deduction shall be agreed by the company' (Commission of the German Corporate Governance Code, 2006, p. 6). In response, Lanxess AG put forward the following explanations in different years:

> 2007 – *'LANXESS believes that a deduction is not a suitable way to influence the sense of responsibility of the management board and supervisory board'.*
>
> 2008 – *'LANXESS believes that a deduction is not a suitable way to influence the sense of responsibility of the management board and supervisory board'.*
>
> (Lanxess AG, 2007)

Similarly, in the UK, Associated British Foods PLC provides the following explanations over the period 2007–2011, for non-compliance with provision B.2.1 of *The Combined Code* 2006 (Financial Reporting Council, 2006), which recommends that the chairman of a company should not chair the remuneration committee.

> *2007 – 'The board of Associated British Foods PLC does not accept this recommendation as it considers that Martin Adamson, due to his experience, is best suited to chair this committee'.*

2008 – 'The board of Associated British Foods PLC does not accept this recommendation as it considers that Martin Adamson, due to his experience, is best suited to chair this committee'.

2009 – 'The board of Associated British Foods PLC does not accept this recommendation as it considers that Charles Sinclair, due to his experience, is best suited to chair this committee'.

2010 – 'The board of Associated British Foods PLC does not accept this recommendation as it considers that Charles Sinclair, due to his experience, is best suited to chair this committee'.

2011 – 'The board of Associated British Foods PLC considers that Charles Sinclair, due to his experience, is best suited to chair this committee'.

(Associated British Foods PLC, 2012)

In the above case, a possible reason for such a consistent deviation could be the ownership structure[55] of the company, because firms with concentrated ownership structure would be less likely to have principal-agent issues and therefore they are less concerned about voluntary corporate governance disclosure. Empirical studies (such as Bauwhede and Willekens, 2008; Arcot and Bruno, 2011) have also reported a negative relationship between ownership concentration and voluntary corporate governance disclosure, while Shleifer and Vishny (1997, p. 754) argue:

> 'Large shareholders thus address the agency problem in that they both have a general interest in profit maximization, and enough control over the assets of the firm to have their interests respected'

However, the explanations given by Lanxess AG and Associated British Foods PLC provide very little information. Some other companies have also repeatedly used phrases, such as 'in the best interest of the company'... 'we believe that'...'in our opinion' and so on, while the content of the reported explanations also remain unchanged over the time. This finding is

[55] As of 17 September 2011, Wittington Investments Limited and its subsidiary Howard Investments Limited, held in aggregate 54.5 per cent (2010 – 54.5%) of the total issued ordinary share capital of Associated British Foods PLC (Associated British Foods PLC, 2011, p. 106).

also consistent with a recent study (Hooghiemstra and Van Ees, 2011, p. 493), which finds that firms report similar explanations to justify non-compliance over the time. As a result, uninformative explanations create 'serious doubts' over the quality of disclosure and subsequently affect the assessment made by investors on the basis of this information (MacNeil and Li, 2006, p. 489). In December 2013, the Financial Reporting Council reviewed the quality of selected explanations published in the FTSE 350 annual reports. The FRC concludes that:

> 'The standard of explanations was variable. While the majority of examples reviewed provided at least some of the information the FRC expects, in a number of cases the company simply asserted that the governance arrangements it had adopted were appropriate for its circumstances'.
>
> (Financial Reporting Council, 2013, p. 19)

Regulators, such as the Financial Reporting Council in the UK, the Commission of the German Corporate Governance Code and investors are the primary stakeholders in respect of these compliance statements and they have the ultimate responsibility of assessing the quality of these explanations. The FRC has warned that, if the quality of explanations does not improve in 2014, then it would take necessary steps to ensure the implementation of the 'comply or explain' principle.

From the content analysis of UK and German corporate governance reports, it was found that the volume, structure, content and language of the reports also vary across these two countries. For instance, all the compliance statements published by German companies are on average slimmed down to one page or two pages and these statements are simultaneously published on companies' websites as well as on the website of the Commission of the German Corporate Governance Code (e.g., Commission of the German Corporate Governance Code, 2012b). In contrast, the corporate governance sections of UK companies contain full details

about the role of the board of directors, board committees, and a remuneration report. Although non-compliance is now limited in the UK, however, in some cases, it is difficult to pin down the explanations for non-compliance in the corporate governance reports. For example, when explaining their position on a particular deviation, some companies frequently refer to the next sections (or pages) of their corporate governance reports, rather than addressing the explanations for non-compliance in the first instance. This makes corporate governance reporting more complex and the objective may be to hide non-compliance information. There is no doubt that companies are complex in terms of their operations and organisation structure but this does not necessarily mean that the reported information should also be 'complex' and 'bulky'.

4.4 Discussion

This chapter contributes to the existing corporate governance literature and investigates an important aspect of the 'comply or explain' principle (the quality of explanations), which has been largely ignored in the governance literature, as prior corporate governance studies have predominantly focused on the 'compliance' aspect of the 'comply or explain' principle. The chapter also reports how institutional differences across different corporate governance systems affect the compliance as well as the disclosure behaviour of firms. The content analysis of 600 corporate governance statements provides a detailed overview of how large companies across the UK and Germany reported the explanations for non-compliance with *The UK Corporate Governance Code and The German Corporate Governance Code*. Furthermore, a new category of explanation, 'assurance of future compliance', was found, which indicates that non-

compliant firms repeatedly give an assurance to investors that in future they would like to implement a specific provision of the corporate governance code – but do not necessarily do so.

The differences in the compliance rate across the UK and Germany could be linked with a variety of institutional differences as mentioned in the literature review section, such as differences in the ownership structures, board structures, capital markets, legal systems and the timing differences in the development and implementation of formal corporate governance codes. There are differences in the requirements (provisions) of *The UK Corporate Governance Code* and *The German Corporate Governance Code*. For example, the 2006 version of *The UK Corporate Governance Code* includes 48 provisions (Financial Reporting Council, 2006), while the 2006 version of *The German Corporate Governance Code* contains 82 provisions (Commission of the German Corporate Governance Code, 2006). This implies that a higher number of provisions in *The German Corporate Governance Code* could also be considered as a potential barrier in terms of compliance with a code of best practices.

The findings imply that improvement in compliance does not necessarily lead to improvement in the quality of explanations for non-compliance. The findings also document complexity and ambiguity in the nature of corporate governance reporting. These findings are consistent with the recent research of Shrives and Brennan (2014), which has raised similar concerns about the location, completeness and verifiability of the explanations reported by the UK firms. A principles-based system of corporate governance would not fulfil the desired objectives if non-compliant companies provide a very limited description and rationale for non-compliance with a specific code provision.

This thesis has provided a robust analytical framework that may be used to examine empirical evidence from other countries that use the 'comply or explain' system of corporate governance. The 'comply or explain' principle has now been widely implemented in the majority of the EU member countries and Commonwealth countries.

The results also contribute to the on-going policy debate in the UK (Financial Reporting Council, 2012c) and in the EU (European Commission, 2006; European Commission, 2012; European Commission, 2014) about the quality of explanations reported by the listed companies. A mixed quality of explanations reported by the UK and German companies suggests that regulators need to develop clearer and comprehensive guidelines about the quality of explanations. In conclusion, it seems that non-compliant companies in the 'comply or explain' regimes exploit the spirit of compliance and the discretion granted by a principles-based system of corporate governance.

4.5 Summary

This chapter has focused on the 'explain' element of the 'comply or explain' principle and has examined the different types of explanation reported by non-compliant firms. Using a mechanistic (quantitative) content analysis approach, 600 corporate governance reports were analysed for a sample of 120 UK and German firms for the period 2007–2011. This chapter aimed to achieve three main objectives. First, the chapter attempted to quantify the level of compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code*. For the sample period (2007–2011), the results suggest that the average compliance rate in the UK is 50.3 per cent, which is higher than a compliance rate of 16.7 per cent in Germany. The findings related to the UK firms are consistent with a recent survey of FTSE 350

companies by Grant Thornton (2012), which shows that the level of compliance in the UK remained at around 50 per cent during 2010, 2011 and 2012. There are two possible reasons for such significant differences in the compliance rate across the UK and Germany. First, majority of the sample UK firms are cross-listed in foreign markets and the literature suggests that firms listed on foreign stock exchanges are subject to additional disclosure requirements and therefore they are more likely to adopt strong corporate governance mechanisms (Klapper and Love, 2004). Second, the timing differences in the development and implementation of formal corporate governance codes across the UK and Germany could also be a reason for such differences in the overall compliance behaviour of firms in these two countries. For instance, in the UK, the first corporate governance code was introduced in 1992, while the German code of corporate governance came into force in 2002. As codes evolve over time, there is improvement in compliance, although, increased compliance does not necessarily lead to better explanation as shown by the mixed quality of explanations in the UK sample.

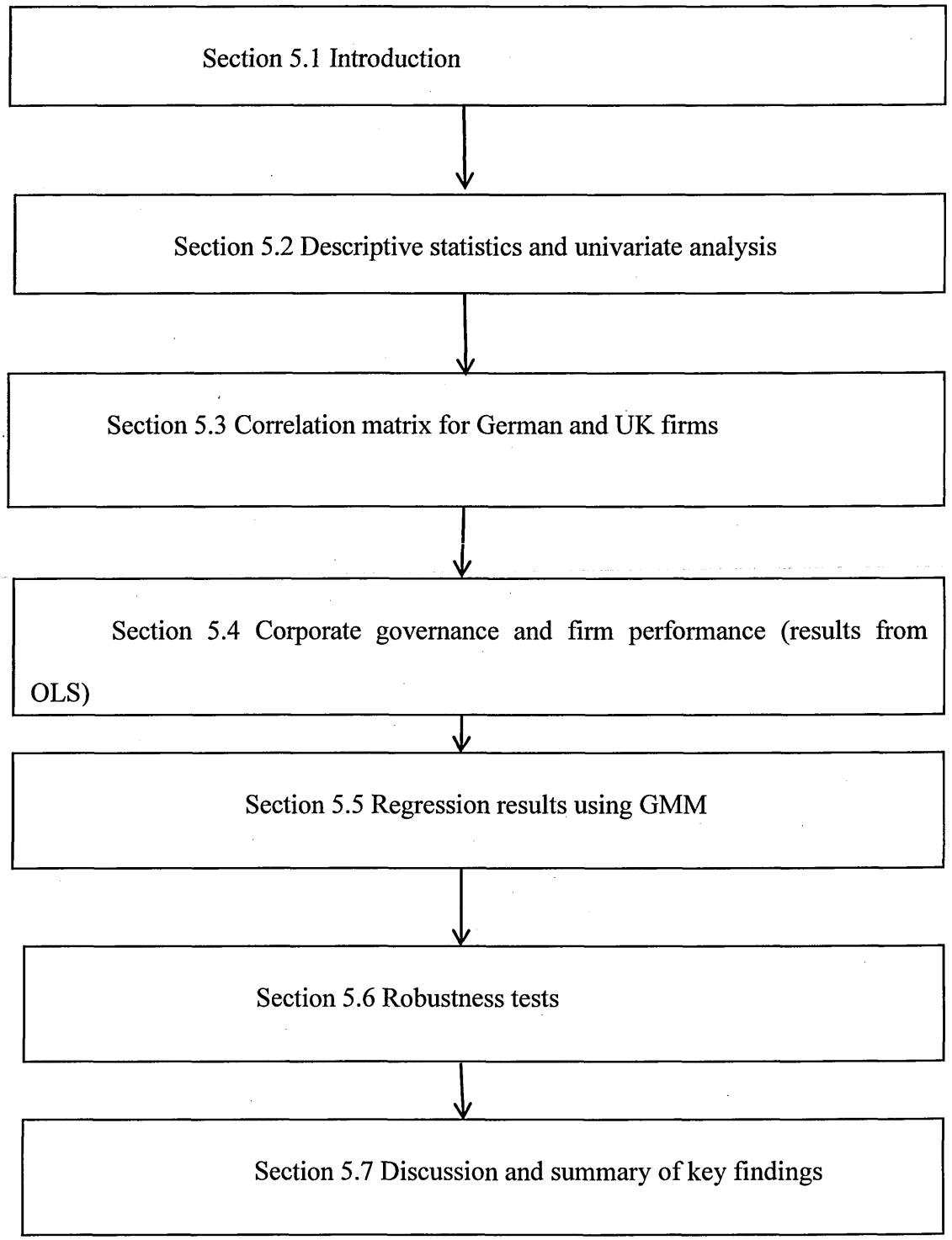
Second, the chapter attempted to classify the reported explanations for non-compliance into different categories. The results suggest that irrespective of the corporate governance systems in different locations, non-compliant firms do exploit the 'explain' option and flexibility of the 'comply or explain' principle. The findings also reveal that non-compliant firms across the UK and Germany either provide no explanations for non-compliance or they choose to provide generic or standard explanations.

Third, the chapter also aimed to provide examples of individual firm-specific explanations extracted from the corporate governance reports of the UK and Germany companies. The individual explanations reported by many of the non-compliant firms are

largely uninformative and the content of such explanations mostly remained similar over the time and across the firms. The complex and ambiguous nature of the reported explanations for non-compliance makes it more difficult for investors to assess the quality of these explanations and make an informed decision. Furthermore, the lack of engagement by regulators in assessing the quality of these explanations eventually transfers the burden of assessment to the hands of only one player (investors) in the capital market.

The next chapter reports the relationship between internal corporate governance mechanisms and firm performance. The 'comply or explain' index used in the following chapter takes into account the level of a firm's compliance as well the quality of explanations reported for non-compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code.*

Chapter 5. Econometric Analysis



5.1 Introduction

This chapter presents the empirical results from the econometric analysis. It fulfils four main objectives. First, it examines the second research question identified in the literature review section (Chapter 2, Section 2.11) – how have different internal corporate governance mechanisms affected firm operating and financial performance across corporate governance systems (the UK and Germany)? The internal corporate governance variables include: (a) 'comply or explain' index; (b) board size; (c) board structure; (d) the number of board meetings; (e) gearing; (f) institutional blockholders' ownership; and (g) non-institutional blockholders' ownership. Control variables are: (a) firm size; (b) firm-specific risk (beta); (c) foreign listing; (d) research and development expenditure (R&D); and (e) industry dummy. The dependent variables represent the accounting-based and market-based measures of firm performance: (a) ROA; and (b) Tobin's Q, respectively. Second, the chapter reports descriptive statistics and correlation coefficients for the sample firms. Third, a generalised method of moments (GMM) estimation technique is applied to analyse and compare the governance-performance relationship across the UK and German firms. Section 3.5 in the methodology chapter provides justification for choosing a generalised method of moments (GMM) estimation technique over other econometric techniques (such as, ordinary least squares regression, fixed-effects or random-effects models). Fourth, the chapter also presents robustness tests, which include an alternative measure for the 'comply or explain' index and an additional control variable to examine the sensitivity of the results.

The sample consists of the same 60 non-financial firms selected each from the UK and Germany over the period 2007–2011 (120 firms in total) as used in the content analysis of

corporate governance reports of UK and German companies. The remainder of the chapter is organised as follows. Section 5.2 reports the descriptive statistics and the results from the univariate analysis for the UK and German firms; Section 5.3 discusses the correlations between explanatory variables; Section 5.4 reports the results from OLS; Section 5.5 presents the regression results from GMM; Section 5.6 reports the results from robustness tests; and Section 5.7 summarises the key findings.

5.2 Descriptive statistics and univariate analysis

Table 5.1 presents the descriptive statistics for all the variables of the sample firms from the UK and Germany. Table 5.1 also shows whether there are statistically significant differences in corporate governance mechanisms and firm-specific characteristics between the two samples (a T-test was used to determine whether mean differences are significantly different across the UK and German sample). The 'comply or explain' index (as explained in Section 3.6.1) is the main explanatory variable for both UK and German firms. The minimum value of the 'comply or explain' index is one for both the UK and German firms. A minimum value of one indicates that a firm is non-compliant and it provides no explanations for non-compliance. The maximum value of the 'comply or explain' index is five for both the UK and German firms. A maximum value of the 'comply or explain' index shows that a firm is either fully compliant or, if it is non-compliant, fully explains and justifies the reasons for non-compliance, with reference to its specific circumstances. Consistent with the literature, a higher value on the 'comply or explain' index indicates better corporate governance practices (in terms of compliance and the quality of reported explanations for non-compliance) and vice versa (Hooghiemstra, 2012). The 'comply or explain' index is significantly higher for the UK sample

as compared with the German sample. This index assigns a higher score to compliance and, owing to a higher compliance rate in the UK (as reported in Table 4.2), the mean value of the index for the UK firms is significantly higher than that for the German firms (UK = 4.129; Germany = 2.811).

For board size, the results show that the boards of German firms are significantly larger and the average board size for German firms is 14.483, which is very close to the mean value of 15.06 reported by De Andres et al. (2005) for German firms. The maximum value for the board size is 22. One reason for a larger board size is the two-tier board structure in Germany; another reason is the German codetermination law, which requires that one half of the supervisory boards of listed companies should be comprised of only employees' representatives (Du Plessis et al., 2012). Board structure is a ratio of non-executive to total board members. For board structure, the results show that German companies have a significantly higher percentage of non-executive directors compared with their UK counterparts (UK = 45.703; Germany = 83.910). One possible explanation could be that the German supervisory boards, which consist of non-executive directors, are relatively larger than the management boards. Similarly, the employees' representation as well as the shareholders representation on the German supervisory boards increases the overall size of the Germany supervisory boards. A mean value of 45.703 for the UK firms is a little lower than the mean value of 48.0 reported by De Andres et al. (2005) for UK firms. The codes of corporate governance in the UK require at least 50 per cent of the board members to be independent non-executive directors (Financial Reporting Council, 2008; Financial Reporting Council, 2010a). There are two possible explanations for the low percentage of non-executive directors in the UK sample. First, the 2011 Grant Thornton review

on compliance with the corporate governance code in the UK shows that 19.1 per cent of the UK companies had an insufficient percentage of independent non-executive directors on their boards (Grant Thornton, 2011, p. 8).[56] Second, board structure data is taken from DataStream, which only considers strictly independent non-executive directors[57] in computing the ratio of non-executive directors to total board members. This implies that the presence of non-executive directors on a company's board does not necessarily mean that they are also independent. The UK companies have a significantly higher number of board meetings and the average number of annual board meetings for the German and UK firms are 5.923 and 8.793, respectively. German companies have a significantly higher gearing ratio (Germany = 0.254; UK = 0.223), which supports the argument that German banks contribute significantly in the German corporate governance system (Gorton and Schmid, 2000).

The UK companies have a significantly higher percentage of institutional blockholders' ownership (UK = 14.153 per cent; Germany = 10.130 per cent), while German companies have a significantly higher percentage of non-institutional blockholders' ownership compared with the UK firms (UK = 8.468 per cent; Germany = 38.456 per cent). The literature review (Section 2.6) explains that one of the key differences between corporate governance in the UK and Germany is the ownership structure of companies. The empirical literature also shows that German companies have a highly concentrated ownership structure (Goergen et al., 2008). Prior

[56] The Grant Thornton survey covered a time period of ten years (2002–2011), which also covers the sample period chosen for this study (e.g., 2007–2011).

[57] According to DataStream, strictly independent non-executive directors are those directors who meet the following criteria for independence: (a) have not been employed by the company in the last five years; and (b) have not served on the board for more than ten years; (c) have no cross-board membership; (d) have no recent, immediate family connections with the company; (e) are not representing a major shareholder with more than five per cent of shares ownership; and (g) are not accepting any other type of remuneration apart from the compensation (fees) received for board service (DataStream, 2015). Corporate governance codes in the UK define similar criteria for independent non-executive directors (Financial Reporting Council, 2008; Financial Reporting Council, 2010a).

research on the ownership and control of German companies (Franks and Mayer, 1997) shows that non-institutional blockholders play an important role in the German corporate governance system. Franks and Mayer (1997, p. 32) find that 'although there is a commonly held view that banks control corporate Germany, banks actually come far down the list of large stakeholders.' They find that the majority of the large share ownership in the German companies is held by large corporations, the second largest share ownership is held by families, followed by trusts, institutional investors, and foreign companies.

For firm-specific characteristics, there are no significant differences between these two countries in terms of firm size and firm-specific risk. Firm-specific risk (beta) measures the volatility in firm-specific risk across these two corporate governance systems. The mean values of firm-specific risk (beta) are very similar in both countries (UK = 1.000; Germany = 0.993) and the mean differences are insignificant. The UK companies have significantly higher R&D expenditure as compared with the German firms (UK = 0.044; Germany = 0.023).

For the UK firms, ROA has an average of 11.9 per cent compared with the average value of 9.3 per cent for the German sample. This shows that the UK firms have significantly higher operating performance. For the UK firms, Tobin's Q has an average value of 51.1 as compared with the average value of 61 for the German sample. This shows that the German firms have significantly higher market valuation, as evidenced by the higher value of Tobin's Q.

For the DataStream corporate governance score, the UK firms have an average value of 60.674 as compared with the average value of 48.522 for the German sample. The UK companies have significantly higher corporate governance ratings, as evidenced by the higher

value of corporate governance score. This score reflects the quality of a firm's corporate governance (as rated by an external agency, such as DataStream) across these two countries. The DataStream corporate governance score is only used in the robustness test.

Table 5.1 Descriptive statistics and univariate analysis for UK and German firms (firms = 120, time period = 2007–2011)

Variables	UK				Germany				Mean comparisons	
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max	UK	Germany
Comply or explain index	4.129	1.237	1.000	5.000	2.811	1.390	1.000	5.000	4.129***	2.811
Board size	10.030	2.384	4.000	16.000	14.483	4.493	5.000	22.000	10.030	14.483***
Board structure	45.703	16.104	10.500	79.860	83.910	3.771	45.500	88.600	45.703	83.910***
Number of board meetings	8.793	2.526	3.000	25.000	5.923	1.723	4.000	13.000	8.793***	5.923
Gearing	0.223	0.131	0.000	0.583	0.254	0.139	0.003	0.636	0.223	0.254**
Institutional blockholders (%)	14.153	8.011	0.000	42.530	10.130	5.222	0.000	37.010	14.153***	10.130
Non-institutional blockholders (%)	8.468	9.038	0.000	77.270	38.456	15.446	0.000	75.120	8.468	38.456***
Firm size	14.948	1.852	10.152	18.976	15.488	1.415	11.874	18.625	14.948	15.488
Firm-specific risk (beta)	1.000	0.372	0.400	1.910	0.993	0.352	0.325	1.898	1.000	0.993
R&D	0.044	0.065	0.000	0.350	0.023	0.022	0.000	0.121	0.044***	0.023
Tobin's Q	0.511	0.238	0.012	1.658	0.610	0.136	0.144	0.899	0.511	0.610***
Return on assets (ROA)	0.119	0.139	-0.672	0.609	0.093	0.083	-0.063	0.604	0.119*	0.093
Governance score	60.674	23.060	5.050	98.290	48.522	27.400	1.900	97.970	60.674***	48.522

Table 5.1 presents summary statistics (mean, standard deviation, minimum and maximum values) for the corporate governance and the firm's performance variables. The 'comply or explain' index is a proxy of the quality of firm-level corporate governance practices and captures the level of compliance as well as the quality of explanations for non-compliance. The index assigns a value from one to five to each firm. Board size is the total number of directors serving on the board. Board structure is a ratio of non-executive to total board members. Number of board meetings is the total number of board meetings during a financial year. Gearing is a ratio of the firm's total debt to the book value of its total assets. Institutional blockholders represents the percentage of equity (five per cent or

more) owned by financial institutions, insurance companies, pension funds and investment trusts. Non-institutional blockholders are all other external blockholders (except institutional blockholders), who own five per cent or more equity stake. Firm size is the natural logarithm of the book value of a firm's assets. Beta is a measure of firm riskiness and the beta factor is derived by performing a least squares regression between adjusted prices of the stock and the corresponding DataStream market index. R&D expenditure is defined as research and development expenditure divided by sales. Return on assets (ROA) is defined as income before extraordinary items divided by total assets at the end of a financial year. Tobin's Q is a measure of a firm's market valuation, which is defined as: (total assets + market value of equity – total common equity – deferred taxes)/total assets. Corporate governance score is a commercial rating of the quality of firm-level corporate governance. According to DataStream 'a corporate governance score is a number between 0 and 100 showing how the company performs compared to the entire ASSET4 universe based on the ''value'' in the related indicator' (DataStream, 2015). The current 'ASSET4 universe' covers more than 2,500 companies including the MSCI (Morgan Stanley Capital International) world index, Standard & Poor's 500, MSCI Europe and FTSE 350. The DataStream governance score is only used in the robustness test to examine the validity of the 'comply or explain' index. T-tests are used to compare means between the UK and German firms. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively.

5.3 Correlation matrix for German and UK firms

Table 5.2 and Table 5.3 report the Pearson correlation coefficients for independent variables. The results are reported separately for the UK and Germany. The highest correlation is between board size and firm size (UK = 0.653; Germany = 0.498). This is in line with previous studies (Yermack, 1996; Guest, 2009; Hooghiemstra, 2012) and it suggests that larger firms have larger boards. The second highest correlation is between board structure (percentage of non-executive directors) and firm size (UK = 0.315; Germany = 0.247). From the agency theory perspective, it is argued that larger firms require more monitoring and controlling, therefore the percentage of non-executive directors may be relatively larger for large firms (Kiel and Nicholson, 2003, p. 193).

The purpose of correlation analysis is to determine whether or not multi-collinearity exists in the data. If the correlation coefficients are below the threshold of 0.80, as has been suggested by Field (2009, p. 224), then there is no concern for multi-collinearity. The highest correlation coefficients for board size and firm size (UK = 0.653; Germany = 0.498) are less than 0.80, which suggests that multi-collinearity is not a problem. Therefore, it was deemed appropriate to include all independent variables in the regression analysis. Further diagnostics tests for multi-collinearity show that the variance inflation factors (VIFs) are below 2.5. Variance inflation factors (VIFs) below 10 confirms no concern for multi-collinearity across the explanatory variables (Field, 2009).

Table 5.2 Correlation matrix for the UK sample

Variables	1	2	3	4	5	6	7	8	9	10
1.'Comply or explain' index	1.000									
2. Board size	0.114**	1.000								
3. Board structure	-0.085	0.234***	1.000							
4. Number of board meetings	0.0316	0.126**	-0.060	1.000						
5. Gearing	0.151*	0.0714	-0.060	-0.0984	1.000					
6. Institutional blockholders (%)	0.0384	-0.320***	-0.254***	0.020	-0.194***	1.000				
7. Non-institutional blockholders (%)	0.0532	0.089	0.187**	-0.086	-0.159*	-0.111	1.000			
8. Firm size	0.254***	0.653***	0.315***	0.010	0.159**	-0.306*	0.1781***	1.000		
9. Firm-specific risk (beta)	0.032	-0.060	-0.092	0.115**	-0.074	0.058	-0.011	-0.024	1.000	
10. R&D	0.1195**	0.030	-0.084	0.031	-0.095	0.011	0.004	-0.197*	-0.109***	1.00

Definitions of variables are provided in Tables 3.5 and 5.1. ***, **, * Correlation is significant at the 1%, 5% and 10 % level, respectively.

Table 5.3 Correlation matrix for the German sample

Variables	1	2	3	4	5	6	7	8	9	10
1. 'Comply or explain' index	1.000									
2. Board size	0.059	1.000								
3. Board structure	0.072	0.101	1.000							
4. Number of board meetings	-0.083	-0.040	-0.137**	1.000						
5. Gearing	0.004	0.021	0.094	0.047	1.000					
6. Institutional blockholders (%)	-0.050	0.234***	0.072	0.004	0.043	1.000				
7. Non-institutional blockholders (%)	-0.194***	-0.110	-0.115**	-0.095	-0.219***	0.154**	1.000			
8. Firm size	0.234***	0.498***	0.247***	-0.122**	0.182**	0.037	-0.205*	1.000		
9. Firm-specific risk (beta)	0.066	0.044	0.067	0.133**	0.018	0.124**	0.016	0.056	1.000	
10. R&D	0.026	0.017	0.038	0.082	0.005	0.092	-0.069	0.024	0.058	1.000

Definitions of variables are provided in Tables 3.5 and 5.1. ***, **, * Correlation is significant at the 1%, 5% and 10 % level, respectively.

5.4 Corporate governance and firm performance (results form OLS)

Owing to its wide use in prior governance-performance research, an OLS analysis was carried out for the dependent variables ROA and Tobin's Q, and the results for the UK and German firms are separately reported in Table 5.4 and Table 5.5. However, following Schultz et al. (2010) and Wintoki et al. (2012), before interpreting the results from OLS regression, a test for endogeneity was carried out to determine whether the results reported under the OLS models are consistent or not. A Durbin-Wu-Hausman test was used to detect endogeneity in the OLS regression. The methodology chapter (Section 3.4) explains why the GMM method could be considered as an alternative approach to OLS and how it controls the different kinds of endogeneity issues. Following Beiner et al. (2006, p. 267), Schultz et al. (2010) and Wintoki et al. (2012), the following two-step process was adopted to carry out the Durbin–Wu–Hausman test for endogeneity:

a. To test whether an independent variable (for example board size) is endogenous or exogenous, a regression was estimated on each independent variable with all other independent variables and control variables to predict the residuals.
b. In the second step, the coefficients for the residuals were estimated to test whether the residuals are significant or not. The null hypothesis states that corporate governance mechanisms are exogenous and they are uncorrelated with the residuals.

Table 5.4 Corporate governance and the performance of UK firms (OLS results)

Variables	(Model 1) ROA	(Model 2) Tobin's Q
'Comply or explain' index	- 0.000347	0.0232**
	(0.00663)	(0.0113)
Board size	-0.00904**	-0.0123
	(0.00438)	(0.00748)
Board structure	0.00182***	-0.00168*
	(0.000516)	(0.000881)
Number of board meetings	-0.00834***	0.0115**
	(0.00314)	(0.00535)
Gearing	-0.0191	0.370***
	(0.0625)	(0.107)
Institutional blockholders (%)	-0.000590	-0.00343*
	(0.00105)	(0.00180)
Non-institutional blockholders (%)	0.000265	-0.000480
	(0.000873)	(0.00149)
Firm size	0.0266***	0.00664
	(0.00618)	(0.0105)
Firm-specific risk (beta)	-0.0191	0.000774
	(0.0220)	(0.0376)
Foreign listing	-0.109***	0.161**
	(0.0383)	(0.0654)
R&D	0.126	-0.295
	(0.130)	(0.222)
Constant	-0.0760	0.258*
	(0.0874)	(0.149)
Observations	297	297
R-squared	0.177	0.145

Definitions of variables are provided in Tables 3.5 and 5.1. Standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 5.5 Corporate governance and the performance of German firms (OLS results)

Variables	(Model 3) ROA	(Model 4) Tobin's Q
'Comply or explain' index	0.00284	0.00305
	(0.00337)	(0.00515)
Board size	-0.00318***	0.00816***
	(0.00119)	(0.00183)
Board structure	-0.000450	-0.00204
	(0.00119)	(0.00182)
Number of board meetings	-0.000679	0.00390
	(0.00263)	(0.00403)
Gearing	-0.116***	0.232***
	(0.0332)	(0.0508)
Institutional blockholders (%)	-0.00114	-0.00390***
	(0.000880)	(0.00135)
Non-institutional blockholders (%)	0.000997***	0.000146
	(0.000305)	(0.000466)
Firm size	-0.0143***	0.00745
	(0.00399)	(0.00612)
Firm-specific risk (beta)	-0.00791	0.0924***
	(0.0126)	(0.0192)
Foreign listing	0.00342	-0.0425***
	(0.0101)	(0.0154)
R&D	0.0706	-0.547
	(0.226)	(0.346)
Constant	0.402***	0.429**
	(0.108)	(0.166)
Observations	286	286
R-squared	0.240	0.270

Definitions of variables are provided in Table 3.5 and Table 5.1. Standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

For the majority of the independent variables in all four regression models reported in Table 5.4 and Table 5.5, the Durbin–Wu–Hausman test turns out to be significant. Table 5.6 below reports the results from the Durbin-Wu-Hausman test and it reports which variable is endogenous in each of the four OLS regression models. If the Durbin-Wu-Hausman test is significant for a variable, it indicates that the variable is endogenous (Beiner et al., 2006; Guest, 2009; Schultz et al., 2010; Wintoki et al., 2012).

Table 5.6 The Durbin-Wu-Hausman test for endogeneity of regressors

	UK		Germany	
Variables	Model 1 (DWH)	Model 2 (DWH)	Model 3 (DWH)	Model 4 (DWH)
'Comply or explain' index	8.06***	6.04**	0.12	7.58***
Board size	4.26**	2.7	7.1***	19.9***
Board structure	12.49***	3.66*	0.14	1.25
Number of board meetings	7.08***	4.59**	0.07	0.94
Gearing	0.09	12.02***	12.31***	20.82***
Institutional blockholders (%)	0.31	3.64**	1.67	8.37***
Non-institutional blockholders (%)	0.09	0.10	10.71***	0.10
Firm size	18.53***	0.4	12.81***	1.48
Firm-specific risk (beta)	0.76	0.50	0.40	23.06***
R&D	0.95	1.77	0.10	2.50
Foreign listing	8.06***	6.04**	0.12	7.58***

Definitions of variables are provided in Tables 3.5 and 5.1. This table reports Durbin-Wu-Hausman test statistics (abbreviated as DWH) for each independent/control variable used in the OLS models reported in Table 5.4 and Table 5.5 (e.g., Model 1– Model 4). The null hypothesis states that all regressors (corporate governance mechanisms) are exogenous. The Durbin-Wu-Hausman test was carried out for all independent/control variables. STATA (1999) provides guidelines about how to carry-out a Durbin-Wu-Hausman test in STATA for each individual variable. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

In Model 1, the endogenous variables include: (a) the 'comply or explain' index; (b) board size; (c) board structure; (d) number of board meetings; (e) firm size; and (f) foreign listing. In Model 2, endogenous variables include: (a) the 'comply or explain' index; (b) board structure; (c) number of board meetings; (d) gearing; (e) institutional blockholders' ownership; and (f) foreign listing. In Model 3, endogenous variables include: (a) board size; (b) gearing; (c) non-institutional blockolders' ownership; and (d) firm size. In Model 4, the endogenous variables include: (a) the 'comply or explain' index; (b) board size; (c) gearing; (d) institutional blockholders' ownership; (e) firm-specific risk; and (f) foreign listing. The methodology chapter (refer to Section 3.4) explains in detail that some of the corporate governance mechanisms could be endogenously determined. For example, a firm with poor performance in one year may change its board size or board structure (the percentage of non-executive directors) in the following year (Beiner et al., 2006; Schultz et al., 2010; Wintoki et al., 2012). Similarly, firms with poor performance are likely to have more meetings in the following year (Vafeas, 1999; Brick and Chidambaran, 2010), and poorly performing firms are likely to take more risks in the following years (Bromiley, 1991). Consistent with Beiner et al. (2006), the 'comply or explain' index is endogenous (except in Model 3), which suggests that a firm's past performance affects its level of compliance with a corporate governance code in the following years. Overall, the results from Table 5.6 show that endogeneity is a major problem in all four OLS models. If only one variable is endogenous in a regression model, the results reported from OLS are inconsistent (Yermack, 1996; Agrawal and Knoeber, 1996; Beiner et al., 2006; Guest, 2009; Schultz et al., 2010; Wintoki et al., 2012). This implies that the results reported from OLS are inconsistent because of the endogeneity issues. As discussed in the methodology section, the GMM controls for endogeneity by internally transforming the data and by including lagged values of the dependent variable. In this way, the GMM offers a superior

estimation technique compared with the OLS. The next section reports a revised analysis of the governance-performance relationship, using a GMM method. As the GMM control for endogeneity and includes lagged values and applies internal transformation process, the results reported under the GMM could be significantly different than those reported under OLS. For instance, using an OLS approach, Schultz et al. (2010) find a significantly negative relationship between executive remuneration and the performance of Australian firms. However, after controlling for unobserved heterogeneity, simultaneity and dynamic endogeneity by using GMM, Schultz et al. (2010) did not find any significant impact of executive remuneration on the performance of firms. The results from GMM are reported in the next section.

5.5 Regression results using GMM

Section 3.5 in the methodology chapter discusses the justification for choosing the generalised method of moments estimation (GMM) technique over other regression models. The GMM controls for different kinds of endogeneity by including previous financial performance (lagged values of the dependent variables ROA or Tobin's Q) as an explanatory variable in the model. The GMM model controls for three major sources of endogeneity: (i) unobserved heterogeneity; (ii) simultaneity; (iii) dynamic endogeneity (refer to Section 3.5 for more details about GMM). In fact, the use of the GMM model could be considered as part of the methodological developments in corporate governance research, after it was recently employed by Wintoki et al. (2012) in the governance-performance research. The nature of the data (panel data) and the dynamic nature of the governance-performance relationship suggest that a GMM model offers more efficient and consistent estimates for the coefficients as compared with other estimation techniques. When applying the generalised method of moments model, researchers need to apply two post-estimation tests to determine that an appropriate econometric model is applied. These tests are: (i) the Sargan test; and (ii) the Arellano-Bond test for first-order and second-order correlation. The results for these two tests are also reported in Table 5.7 and Table 5.8.

5.5.1 Corporate governance and the accounting-based measure of performance (ROA)

Table 5.7 reports the results for the governance-performance relationship, based on the accounting-based measure of firm performance (ROA) for both the UK and German firms. The main explanatory variable, the 'comply or explain' index, is significantly positively associated with operating performance (ROA) of German firms. This finding is consistent with prior

German-based governance-performance research (e.g., Goncharov et al., 2006), which also reports a positive relationship between compliance with *The German Corporate Governance Code* and the performance of firms. This finding also confirms the results reported in previous studies (Klapper and Love, 2004; Bauwhede, 2009), which shows that compliance with a code of corporate governance has a positive impact on a firm's operating performance (ROA). However, I did not find any evidence to support the notion that the 'comply or explain' index has a positive impact on the operating performance of the UK firms. This is consistent with the prior research of Weir and Laing (2000) and Weir and Laing (2001), who found that full compliance with the *Cadbury Report* may not necessarily improve the operating performance of firms. Weir and Laing (2000, p. 279) argue that a tendency towards full compliance may restrain firms in utilising the effectiveness of alternative corporate governance mechanisms, which could be beneficial for firms. Table 5.7 also shows the relationship between individual corporate governance mechanisms and the performance of firms. Board size has a significantly negative impact on the operating performance (ROA) of UK and German firms. The findings related to this negative relationship between board size and firm operating performance (ROA) are in line with previous studies (Yermack, 1996; Hermalin and Weisbach, 2001; Guest, 2009). Lipton and Lorsch (1992) and Jensen (1993) have raised concerns about the communication and co-ordination problems of larger boards. This negative relationship can be interpreted from an agency theory perspective, which assumes that larger boards are costly and the overall benefits associated with larger boards may not outweigh the potential costs of larger boards. In light of the similar findings related to the negative impact of board size on the operating performance (ROA) of firms in both countries, it can be argued that, irrespective of the institutional

differences across the UK and Germany, larger boards are costly owing to their increasing coordination and communications problems.

Table 5.7 Regression results for corporate governance mechanisms and firm operating performance (ROA)

Variables	(Model 5) UK	(Model 6) Germany
L.ROA	0.176***	0.442***
	(0.0118)	(0.0252)
'Comply or explain' index	0.000874	0.00559**
	(0.00172)	(0.00261)
Board size	-0.00619***	-0.00346***
	(0.00203)	(0.000721)
Board structure	0.000979***	0.000799
	(0.000211)	(0.000530)
Number of board meetings	-0.00504***	-0.000954
	(0.000968)	(0.00124)
Gearing	-0.110***	0.0991***
	(0.0180)	(0.0191)
Institutional blockholders (%)	0.000698*	0.000151
	(0.000412)	(0.000273)
Non-institutional blockholders (%)	-0.000132	0.000733***
	(0.000232)	(0.000125)
Firm size	-0.00416	-0.0106***
	(0.00352)	(0.00342)
Firm-specific risk (beta)	-0.0209*	-0.00863*
	(0.0109)	(0.00459)
Foreign listing	0.0985*	0.0386***
	(0.0516)	(0.00851)
R&D	0.202***	0.452***
	(0.0447)	(0.0923)
Constant	0.0225	0.108**
	(0.0890)	(0.0541)
AR(1) test (p-values)	0.0174	0.0021
AR(2) test (p-values)	0.4596	0.3871
Sargan test of overidentification	48.684	43.13
Observations	238	230
Number of firms	60	60

This table shows results of two-step generalised method of moments estimation for 60 German and UK non-financial firms (total 120 firms) over the period 2007–2011. The dependent variable is the operating performance measure of firm performance – return on assets (ROA). L.ROA indicates lagged values of the dependent variable ROA. Only one lag of the dependent variable is included in both models. AR(1) and AR(2) are the Arellano–Bond

test statistics for first-order and second-order correlation, under the null hypothesis of no serial auto-correlation. The Sargan test statistic is a test of over-identifying restrictions, under the null hypothesis that all instruments are valid. Standard errors are reported in parentheses. Definitions of variables are provided in Tables 3.5 and 5.1. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Board structure (defined by the percentage of non-executive directors) has a significantly positive impact on the operating performance (ROA) of UK firms. This finding is consistent with prior research of Dahya and McConnell (2007) in the UK, who also reported a positive impact of non-executive directors on the profitability of UK companies. This finding is consistent with the assumptions of agency theory, which suggests that a greater role is played by non-executive directors in monitoring a firm's management. However, for the German sample, I did not find any significant impact of the percentage of non-executive directors on the operating performance of firms. This finding is consistent with the findings of Bermig and Frick (2010), who also reported no significant impact of board structure on the performance of 294 large and medium-size German firms.

The number of board meetings is significantly negatively associated with the operating performance of firms in the UK. This finding is consistent with the findings reported by Fich and Shivdasani (2006), who reported a significantly negative impact of the number of board meetings on the operating performance of firms. One possible explanation for this negative relationship could be that boards are usually proactive and board activities are likely to be higher in times of poor corporate performance and vice versa (Vafeas, 1999). For the German sample, I did not find any significant impact of board meetings on the operating performance of firms.

Table 5.7 shows that gearing (defined by a ratio of total debt to total assets) has a significantly positive impact on the operating performance of German firms. The results indicate that, in the context of Germany, debt financing serves as an important internal corporate governance mechanism. Prior corporate governance research (Jensen, 1986; Shleifer and Vishny, 1997) also shows that debt financing serves as an important corporate governance mechanism in mitigating agency problems. On the other hand, for the UK firms, I found that the impact of gearing is significantly negative on the operating performance (ROA) of firms. This finding is consistent with prior research in the UK by Weir and Laing (2000) and Weir et al. (2002), who also reported a negative impact of debt financing on the operating performance of UK firms. The negative relationship between gearing and firm performance confirms the agency costs of debt financing, and the findings suggest that debt financing may not necessarily improve the operating performance of UK firms. In a comparative study on the effectiveness of corporate governance mechanisms in the EU countries, Essen et al. (2013, p. 201) criticised the 'universality of good corporate governance prescriptions' and they argue that 'the efficacy of governance mechanisms may be contingent upon organisational and environmental circumstances.'

Following prior empirical research (Short and Keasey, 1999; Weir and Laing, 2000; Gugler et al., 2008), external blockholders were further classified into institutional blockholders and non-institutional blockholders. For the UK firms, the results show that institutional blockholders' ownership has a positive impact on the operating performance of firms (significant at ten per cent). This finding is consistent with the findings reported by Short and Keasey (1999), who also reported a weakly significant impact of institutional shareholders'

ownership and the performance of UK firms. However, I did not find any significant impact of non-institutional blockholders' ownership on the operating performance of UK firms. For the German sample, the findings show that non-institutional blockholders have a significantly positive impact on the operating performance of firms. This finding is consistent with the finding of Andres (2008) in Germany, who shows that non-institutional blockholders have a significantly positive impact on the operating performance of German firms. However, I did not find any significant evidence to support the argument that institutional shareholders also have a positive impact on the operating performance of German firms.

As expected, control variable, such as firm size has a negative impact on the operating performance of German firms. For the German sample, the significantly negative relationship between firm size and ROA is consistent with the findings reported by Lehmann and Weigand (2000) in Germany. The negative relationship between firm size and ROA supports the notion that larger firms are complex, they have severe agency problems and they need additional monitoring, which results in higher operating costs. For the UK firms, firm size is negatively related with the operating performance of UK firms and this relationship is statistically not significant.

Firm-specific risk has a negative impact (significant at ten per cent) on the performance of UK and German firms. This finding is consistent with the findings reported by Bromiley (1991). Traditional finance theory suggests that higher risk taking should improve the performance of firms. However, Bromiley (1991) argues that increasing a firm's risk exposure may not necessarily result in better operating performance. Similarly, Ayuso et al. (2014) also reported a negative relationship between risk taking (as measured by beta) and the operating

performance of firms (including the UK and German firms in their sample). In the context of the UK, Weir and Laing (2000) have also reported a negative relationship between firm-specific risk and the operating performance (ROA) of UK firms.

Foreign listing has a positive impact on the operating performance of the UK and German firms.[58] This finding is consistent with the findings of Klapper and Love (2004) and Ammann et al. (2011). This finding is consistent with the notion that foreign-listed firms are subject to additional regulatory/disclosure requirements in the overseas countries which improves the governance mechanisms and performance of foreign-listed firms.

R&D expenditure has a significant positive impact on the operating performance (ROA) of UK and German firms. This finding is consistent with the findings of Short and Keasey (1999), who find that investment in R&D has a positive impact on the performance of firms. The findings indicate that knowledge-based industries have substantial investment in R&D expenditure, which has positive implications for the earnings of firms. The findings imply that R&D has asset-like qualities, and, similar to capital expenditure, investment in R&D results in growth opportunities and profitability. The next section discusses the results for the market-based measure of firm performance (Tobin's Q).

5.5.2 Corporate governance and the market-based measure of performance (Tobin's Q)

Table 5.8 shows that the 'comply or explain' index is significantly positively associated with Tobin's Q for the UK sample. This finding is also consistent with prior research in the UK (Dahya and McConnell, 2007; Arcot and Bruno, 2011), which shows a positive relationship

[58] The coefficients for the UK sample are weakly significant at 10% level.

between compliance with *The UK Corporate Governance Code* and the market valuation of firms. For the UK sample, the positive relationship is consistent with the on-going corporate governance literature which suggests that compliance with the recommendations of corporate governance codes has a positive effect on the market valuation of firms, as measured by Tobin's Q (e.g., Gompers et al., 2003; Drobetz et al., 2004; Klapper and Love, 2004; Durnev and Kim, 2005; Beiner et al., 2006; Chhaochharia and Laeven, 2009). The findings also support the idea of self-regulation through a 'comply or explain' principle in the UK because capital markets play a significant role by rewarding adherence to or punishing deviation from the 'comply or explain' principle.

The positive relationship between the 'comply or explain' index and the performance of UK firms is also consistent with a recent study of Luo and Salterio (2014) in the Canadian context, which shows a positive impact of corporate governance compliance and disclosure index[59] on the market value of Canadian firms. However, for the German firms, I did not find any evidence to support the contention that compliance with *The German Corporate Governance Code* significantly affects the market valuation of German firms.

Table 5.8 shows that the relationship between board size and firm financial performance is significantly negative for UK firms. The significantly negative relationship between board size and Tobin's Q is in line with the results reported by Florackis (2005) and Guest (2009) for a sample of UK firms. This finding is also consistent with the findings reported by Yermack (1996), who finds a negative relationship between board size and the market valuation of firms (as measured by Tobin's Q).

[59] Similar to the 'comply or explain' index, the index used by Luo and Salterio (2014) also measures compliance as well as the quality of explanations reported by non-compliant firms.

Table 5.8 Regression results for corporate governance mechanisms and market-based measure of firm financial performance (Tobin's Q)

Variables	(Model 7) UK	(Model 8) Germany
L.Tobin's Q	0.0485***	0.238***
	(0.00910)	(0.0310)
'Comply or explain' index	0.0151***	0.0389567
	(0.00490)	(.03492)
Board size	-0.0146***	0.00143
	(0.00308)	(0.00142)
Board structure	-0.00126***	0.00119**
	(0.000364)	(0.000508)
Number of board meetings	0.0225***	0.00470***
	(0.00198)	(0.000940)
Gearing	0.135**	0.0994***
	(0.0582)	(0.0363)
Institutional blockholders (%)	-0.00159*	-0.00448***
	(0.000936)	(0.000754)
Non-institutional blockholders (%)	0.00133***	0.00136***
	(0.000306)	(0.000208)
Firm size	0.0264***	0.0436***
	(0.00972)	(0.00836)
Firm-specific risk (beta)	0.0355**	0.0743***
	(0.0166)	(0.0104)
Foreign listing	0.0178	0.102***
	(0.0697)	(0.0186)
R&D	0.659***	0.548***
	(0.0409)	(0.172)
Constant	-0.0499	0.380***
	(0.145)	(0.119)
AR(1) test (p-values)	0.0848	0.0021
AR(2) test (p-values)	0.3054	0.3871
Sargan test of overidentification	51.48	43.13
Observations	238	230
Number of firms	60	60

This table shows results of two-step generalised method of moments estimations for 60 German and UK non-financial firms (total 120 firms) over the period 2007–2011. In Model 2 and Model 3, the dependent variable includes the market-based measure of firm performance – Tobin's Q. L.Tobin's Q means lagged values of the dependent variable Tobin's Q. L.Tobin's Q is included as an independent variable in Model 4. Only one lag of the dependent variable is included in both models. AR(1) and AR(2) are the Arellano–Bond test statistics for first-order and second-order correlation, under the null hypothesis of no serial auto-correlation. The Sargan test statistic is a test of over-identifying restrictions, under the null hypothesis that all instruments are valid. Standard errors reported in parentheses. Definitions of variables are provided in Tables 3.5 and 5.1. *** p<0.01, ** p<0.05, * p<0.1

The negative impact of board size on the performance of UK firms also supports the assumptions of agency theory, which suggests that larger boards are ineffective owing to their increasing coordination and communication costs. For the German sample, I did not find any significant impact of board size on the market valuation of German firms.

For the UK sample, the relationship between board structure (the percentage of non-executive directors) and the performance of firms is significantly negative. The negative relationship between the percentage of non-executive directors and the performance of firms is consistent with the findings reported by Weir and Laing (2000) for the UK firms, and, Agrawal and Knoeber (1996) and Francis et al. (2012) findings for firms listed in the USA. The role of non-executive directors in the UK and USA has been recently criticised. Particularly, the failures of Northern Rock and Lehman Brothers have raised serious questions about the effectiveness of the non-executive directors in identifying a firm's exposure to risk (Tricker, 2012). It is also argued that the non-executive directors may not fully understand the complex corporate governance structure and the underlying business model of larger firms (Tricker, 2012). The finding is also consistent with recent research studies, which has reported a significantly negative relationship between the percentage of non-executive directors and the performance of banks (e.g., Erkens et al., 2012; Pathan and Faff, 2013). Interestingly, for German firms, I found a significantly positive impact of board structure (the percentage of non-executive directors) on the performance of German firms. In the context of Germany, the positive relationship between the percentage of non-executive directors and the market valuation of firms supports the assumptions of agency theory and resource dependence theory. A number of previous studies (Yermack, 1996) have also reported a positive relationship

between the percentage of non-executive directors and the market valuation of firms (measured by Tobin's Q). The positive impact of non-executive directors on the performance of firms in Germany and the negative impact in the UK suggest that the monitoring role of non-executive directors is perceived differently in different capital markets. This finding is also consistent with the notion that the implications of corporate governance mechanisms are context-specific, which indicates that corporate governance mechanisms may not yield similar results in different corporate governance systems (Essen et al., 2013).

Table 5.8 shows a significantly positive relationship between the number of board meetings and the market valuation of the UK and German firms. The results are consistent with those reported by Brick and Chidambaran (2010). Brick and Chidambaran (2010) argue that board activities are likely to increase as a result of regulatory and capital market pressures and these activities are value-relevant for shareholders. The findings indicate that an increase in board activities (proxied by the number of board meetings) enhances a firm's monitoring and control functions more effectively. *The UK Corporate Governance Code* of 2012 also recommends that each firm should disclose its board activities (including board meetings and board attendance) in its annual report, so that shareholders may assess the board of directors' performance (Financial Reporting Council, 2012b, p. 30).

The results show that gearing has a significantly positive impact on the market valuation of UK and German firms. This finding is consistent with the findings reported by Goncharov et al. (2006) for a sample of German firms and with the findings reported by McKnight and Weir (2009) and Dahya et al. (2002) for the UK firms. The significantly positive impact of gearing

suggests that the capital markets in the UK and Germany consider gearing as an important corporate governance mechanism.

Results for the blockholders' ownership show that institutional blockholders' ownership has a negative impact on the market valuation of UK[60] and German firms. This finding is consistent with the findings reported by Gugler et al. (2008) in their comparative research on Anglo-Saxon and relationship-based corporate governance systems. In the context of the UK, Mura (2007) has reported a significantly negative relationship between institutional blockholders' ownership and the market valuation of UK firms, as measured by Tobin's Q. Recently, regulators in the UK have raised concerns over the monitoring role played by the UK institutional shareholders and the Financial Reporting Council have issued *The UK Stewardship Code* for the institutional investors in the UK (Financial Reporting Council, 2010b; Financial Reporting Council, 2012a). The negative relationship between institutional blockholders' ownership and the market valuation of firms suggests that the capital markets in the UK and Germany do not consider institutional investors as effective monitors, as evidenced by the negative relationship between institutional blockholders' ownership and Tobin's Q.

Interestingly, non-institutional blockholders' ownership has a significantly positive impact on the market valuation of the UK and German firms and this finding is consistent with the findings reported by Lehmann and Weigand (2000) for German firms and the findings of Short and Keasey (1999) for the UK sample. This finding implies that non-institutional blockholders (individuals, families, corporations) also exert a significant influence in monitoring their investee companies.

[60] The results are significant at ten per cent for the UK firms.

The results for control variables show that firm size has a positive impact on the market valuation of UK and German firms. This finding is consistent with the findings reported by Short and Keasey (1999), Weir and Laing (2000), Dahya et al. (2002) and Florackis (2005) in the UK, Beiner et al. (2006) in Switzerland, Yermack (1996) in the USA, and De Andres et al. (2005) in the OECD countries. The finding supports the contention that larger firms get higher market valuation from the capital markets in both countries.

Foreign listing has a significant positive impact on the market valuation of German firms. This finding is consistent with the findings reported in prior research (Klapper and Love, 2004; Chhaochharia and Laeven, 2009; Aggarwal et al., 2010; Ammann et al., 2011), which shows that cross-listed firms are subject to additional regulatory requirements in foreign countries and they exhibit strong corporate governance mechanisms, which have positive implications for their market valuations. For the UK firms, the relationship between foreign listing and the performance of firms is statistically not significant.

Firm-specific risk (beta) has a significantly positive impact on the market valuation (Tobin's Q) of the UK and German firms and this is consistent with the findings reported by Beiner et al. (2006).

As expected, R&D expenditure has a significantly positive impact on the market valuation of firms in the UK and Germany. This finding is consistent with the findings reported by Agrawal and Knoeber (1996) in the USA, Short and Keasey (1999) in the UK, Durnev and Kim (2005) in the emerging market economies, and Aggarwal et al. (2010) and Ammann et al. (2011) in the context of developed countries, including the UK and Germany firms. This

suggests that investment in R&D expenditure is value-relevant and investors are willing to pay premiums for companies with higher R&D expenditure.

The results from Sections 5.5.1 and 5.5.2 show that some of the findings are different for the accounting-based and market-based measures of firm performance. For instance, in the UK sample, board structure has a positive impact on the operating performance, while for the market-based measure of firm performance, this relationship is significantly negative for the UK sample. The positive impact of board structure supports the assumptions of agency theory, while a negative relationship can be explained through the lens of a stewardship theory. Weir and Laing (2000, p. 279) argue that 'the choice of performance measure has important implications for understanding the impact of governance structures.'

The results in Sections 5.5.1 and 5.5.2 also show that the impact of some internal corporate governance mechanisms is different in the UK and Germany. For example, gearing has a positive impact on both the accounting-based and market-based measures of firm performance in Germany. In the context of the UK, gearing has a significantly negative impact on the operating performance and this relationship is significantly positive for the market-based measure of firm performance. Similarly, board structure has a negative impact on the market valuation of firms in the UK, while in Germany this relationship is significantly positive. This suggests that, besides the governance-performance relationship being explained by different theories of corporate governance (Nicholson and Kiel, 2007b), corporate governance and the performance of firms is also context-specific (Essen et al., 2013).

Firm specific characteristics (such as firm size,[61] firm-specific risk (beta), foreign listing[62] and investment in R&D) generally have a similar impact on the operating and market-based measures of firm performance in the UK and Germany.

The next section discusses the results from the robustness tests.

5.6 Robustness tests

In order to examine the robustness of the results and the sensitivity of the 'comply or explain' index, the DataStream corporate governance score (CGVSCORE) is used as an explanatory variable. According to DataStream 'a corporate governance score is a number between 0 and 100 showing how the company performs compared with the entire ASSET4[63] universe based on the ''value'' in the related indicator'. The current 'ASSET4 universe' covers more than 2,500 companies including the MSCI (Morgan Stanley Capital International) World Index,[64] Standard & Poor's 500, MSCI Europe and FTSE 350. Corporate governance studies have widely used commercially available ratings and indices as a proxy for a firm's corporate governance practices. These studies and ratings which are already discussed in the literature review section include: (a) the Investor Responsibility Research Centre (IRRC) data on corporate governance (Gompers et al., 2003); (b) the Credit Lyonnais Securities Asia (CLSA) governance index (Klapper and Love, 2004); (c) the Deminor corporate governance rating for EU firms (Bauer et al., 2004; Bauwhede and Willekens, 2008); and (d) the Institutional Shareholder Services (ISS) data on corporate governance (Aggarwal et al., 2010).

61 Except for the UK sample in Model 5, the relationship between firm size and ROA is statistically not significant.

62 Except for the UK sample in Model 7, the relationship between foreign listing and Tobin's Q is statistically not significant.

63 ASSET4 AG provides investment research data on the economic, environmental, social, and governance (ESG) aspects of its constituent companies.

64 The MSCI World Index covers 1,604 large and medium size companies from 24 developed market countries (MSCI, 2013).

DataStream has recently started reporting corporate governance data, therefore only a few studies have used the DataStream corporate governance score (CGVSCORE). Consistent with the previous studies using commercially available ratings (such as Gompers et al., 2003; Klapper and Love, 2004; Bauer et al., 2004; Bauwhede and Willekens, 2008; Aggarwal et al., 2010), this study also uses commercially available ratings (the DataStream corporate governance score) to test whether the results reported under the 'comply or explain' index are also robust when an alternative measure of the quality of a firm corporate governance has been used (refer to previous paragraph about details on commercially available corporate governance indices).

The 'comply or explain' index and the DataStream corporate governance score are developed in different ways. For instance, the 'comply or explain' index focuses on compliance as well as the quality of explanations for non-compliance and the index assigns a score from one to five to each firm. On the other hand, the DataStream corporate governance score is a composite index, which takes into account compliance as well as other aspects of a firm's internal corporate governance mechanisms, such as: (a) board functions; (b) compensation policy; (c) shareholder rights; (d) anti-takeover measures. The DataStream corporate governance score assigns a score from 0 to 100 to each firm. These two indices rank firms based on the effectiveness of their internal corporate governance mechanisms. A higher score on both indices reflects good corporate governance practices and vice versa.

In the robustness test, a GMM model was used and the 'comply or explain' index was replaced by the DataStream corporate governance score. Sales growth was also included as an additional control variable in the robustness test. Empirical research shows that firms with

better protections for investors (better corporate governance practices) have higher sales growth and higher market valuation (Gompers et al., 2003, p. 107). Empirical studies have reported a positive relationship between sales growth and firm performance (e.g., Gompers et al., 2003; Durnev and Kim, 2005; Klapper and Love, 2004; Chhaochharia and Laeven, 2009; Aggarwal et al., 2010). Sales growth is added as a control variable to control for potential endogeneity because growth opportunities are likely to affect a firm's corporate governance mechanisms, operating performance and the market valuation (Durnev and Kim, 2005, p. 1481). Consistent with prior research (Gompers et al., 2003; Drobetz et al., 2004; Chhaochharia and Laeven, 2009), sales growth is calculated as:

$$= \frac{\text{(Current year's sales – Previous year's sales)}}{\text{Previous year's sales}}$$

Following prior empirical research (Gompers et al., 2003; Durnev and Kim, 2005; Klapper and Love, 2004; Chhaochharia and Laeven, 2009; Aggarwal et al., 2010), it is expected that there will be a positive relationship between sales growth and the performance of firms. The results are reported in Table 5.9. The findings are robust when an alternative measure of the quality of corporate governance is used. The signs and significance of all explanatory variables remain the same. However, in the UK sample (Model 9), firm-specific risk (beta) is now significantly negative at one per cent level compared with the previous significance level of ten per cent (refer to Table 5.7). In the UK sample (refer to Model 10), the impact of board size and board structure is now significant at ten per cent, compared with a one per cent significance level reported in Table 5.8. As expected, sales growth is significantly positively related with the

operating performance (ROA) and market valuation (Tobin's Q) of the UK and German firms, and this finding is consistent with the findings reported by Short and Keasey (1999) in the UK and the findings reported by Drobetz et al. (2004) in Germany. The post estimation tests, including the Sargan test and the Arellano-Bond test for auto-correlation suggest that instruments/models are valid.

Table 5.9 Sensitivity analysis with the DataStream corporate governance ratings

Variables	UK		Germany	
	(Model 9) ROA	(Model 10) Tobin's Q	(Model 11) ROA	(Model 12) Tobin's Q
L.ROA/ Tobin's Q	0.186***	0.0759***	0.383***	0.294***
	(0.0135)	(0.0141)	(0.0402)	(0.0217)
Corporate governance score	0.00773	0.000684**	0.000429***	0.00160
	(0.00635)	(0.000286)	(0.000108)	(0.00111)
Board size	-0.0101***	-0.00657*	-0.00355***	0.00115
	(0.00162)	(0.00398)	(0.00129)	(0.00173)
Board structure	0.00134***	-0.000818*	0.0334	0.00116**
	(0.000288)	(0.000483)	(0.0287)	(0.000541)
Number of board meetings	-0.00613***	0.0235***	-0.000235	0.00546***
	(0.00101)	(0.00341)	(0.00136)	(0.0015)
Gearing	-0.0879***	0.149**	0.0594**	0.0937***
	(0.0238)	(0.0636)	(0.0298)	(0.0344)
Institutional blockholders (%)	0.000427**	-0.00292**	0.00591	-0.00432***
	(0.000194)	(0.00133)	(0.00458)	(0.000785)
Non-institutional blockholders (%)	-0.0000615	0.00142***	0.00107***	0.00107***
	(0.000289)	(0.000423)	(0.000317)	(0.000211)
Firm size	-0.00209	0.0373***	-0.0205***	0.0265***
	(0.00371)	(0.0114)	(0.00446)	(0.00797)
Firm-specific risk (beta)	-0.0252***	0.0526***	-0.0209**	0.0916***
	(0.00827)	(0.0189)	(0.00916)	(0.00884)
Foreign listing	0.0904**	0.0477	0.0689***	0.0345***
	(0.0401)	(0.0708)	(0.0142)	(0.00175)
R&D	0.163***	0.576***	0.356***	0.565***
	(0.0402)	(0.0648)	(0.121)	(0.123)
Sales growth	0.322***	0.316***	0.434***	0.392***
	(0.0851)	(0.0676)	(0.03069)	(0.0652)
Constant	0.131*	-0.24	0.246***	-0.14
	(0.0748)	(0.17)	(0.0763)	(0.118)
Observations	238	240	230	230
Number of firms	60	60	60	60
AR(1) test (p-values)	0.0145	0.0721	0.0163	0.0012
AR(2) test (p-values)	0.431	0.1703	0.4503	0.3139
Sargan test	46.7	47.939	44.08	41.872

This table shows results of two-step generalised method of moments estimation for 60 German and UK non-financial firms over the period 2007–2011. The dependent variable includes the operating performance measure of firm performance – return on assets (ROA) and the market-based measure of firm performance Tobin's Q. L.ROA indicates lagged values of the dependent variable ROA. L.Tobin's Q indicates lagged values of the dependent variable Tobin's Q.

Only one lag of the dependent variable is included in both models. AR(1) and AR(2) are the Arellano–Bond test statistics for first-order and second-order correlation, under the null hypothesis of no serial auto-correlation. The Sargan test statistic is a test of over-identifying restrictions, under the null hypothesis that all instruments are valid. Standard errors are reported in parentheses. Definitions of variables are provided in Table 3.5 and Table 5.1. *** p<0.01, ** p<0.05, * p<0.1.

5.7 Discussion and summary

This chapter analysed the impact of internal corporate governance mechanisms on the performance of UK and German firms. The results from univariate analysis show that there are significant differences in the corporate governance mechanisms and firm-specific characteristics across the UK and German firms (refer to Table 5.1). For instance, the 'comply or explain' index is significantly higher for the UK firms, while German firms have significantly larger boards with a significantly higher percentage of non-executive directors compared with the UK firms. There are significant differences in the ownership and control of companies across these two countries. For instance, non-institutional blockholders' ownership is 38.456 per cent in the sample German companies, while in the UK, institutional blockholders' ownership is 14.153 per cent in the sample UK companies. The econometric analysis also reveals how the differences in corporate governance mechanisms and firm-specific characteristics have implications for the performance of firms.

The 'comply or explain' index has a significantly positive impact on the operating performance of German firms, and for the UK sample, the 'comply or explain' index has a significantly positive impact on the market valuation (Tobin's Q) of UK firms. This provides some support for the assumption that compliance with the corporate governance codes has positive implications for the performance of firms in the UK and Germany. The coefficients for

the 'comply or explain' index are statistically not significant with ROA for the UK sample and with Tobin's Q for the German sample.

Consistent with the assumptions of agency theory, board size has a significantly negative impact on the operating performance (ROA) of firms in both countries. This is consistent with the notion that larger boards are costly in terms of the co-ordination and communication problems associated with the larger boards (Lipton and Lorsch, 1992; Jensen, 1993). For the UK sample, board size has a negative impact on the market valuation of UK firms, while for German firms, I did not find any significant impact of board size on the market valuation of German firms.

Consistent with Dahya and McConnell (2007) and in line with the assumptions of agency theory, I found that board structure (the percentage of non-executive directors) has a positive impact on the operating performance of the UK firms. However, for the German firms, I did not find any significant impact of board structure on the operating performance of German firms. This finding is consistent with the findings reported by Bermig and Frick (2010) for a sample of German firms. Interestingly, the results for the market-based measure of firm performance show that board structure (the percentage of non-executive directors) has a negative impact on the market valuation (Tobin's Q) of UK firms. This finding is consistent with the findings reported by Weir and Laing (2000) for the UK firms, Agrawal and Knoeber (1996) and the findings reported by Francis et al. (2012) for firms listed in USA. This suggests that investors in the UK may not necessarily reward companies with a higher percentage of non-executive directors and they may not consider all non-executive directors as truly independent. This finding supports the stewardship theory perspective, which suggests an

increasing role for executive directors in terms of the board composition. In the context of Germany, board structure has a significantly[65] positive impact on the market valuation of German firms. This finding is consistent with the assumptions of agency theory and resource dependence, which suggest that firms with a higher percentage of non-executive directors get higher market valuation.

The number of board meetings' variable is significantly negatively related with ROA for the UK firms, which suggests that increasing the number of board meetings may not improve the profitability of firms, and this finding is consistent with the findings reported by Fich and Shivdasani (2006). For the German firms, I did not find any significant impact of the number of board meetings on the operating performance of German firms. The relationship between the number of board meetings and Tobin's Q is significantly positive for both the UK and German firms. Recent evidence (Brick and Chidambaran, 2010) shows that board activities (measured by the number of board meetings) are value-relevant for shareholders (as measured by the market-based measure of firm performance, Tobin's Q).

The impact of gearing is significantly positive on the operating performance (ROA) and the market valuation (Tobin's Q) of German firms. This finding is consistent with the findings reported by Goncharov et al. (2006) for Germany. This finding is consistent with the notion that gearing serves as an important corporate governance mechanism in Germany. Jensen (1986) and Shleifer and Vishny (1997) also suggest a positive impact of gearing on the performance of firms. In the UK, gearing has a negative impact on the operating performance of firms. This finding is consistent with the findings reported by Weir and Laing (2000) and Weir et al.

[65] Results are significant at five per cent only.

(2002). The findings suggest that gearing may not necessarily improve the operating performance of firms in the UK, as evidenced by the negative impact of debt financing on the operating performance of UK firms. However, gearing has a significantly positive impact on the market valuation of UK firms, and this finding is consistent with the findings reported by Dahya et al. (2002) and McKnight and Weir (2009) for the UK firms. In fact, the empirical evidence on the impact of gearing supports the arguments for both the positive and negative impact of gearing on the performance of firms.

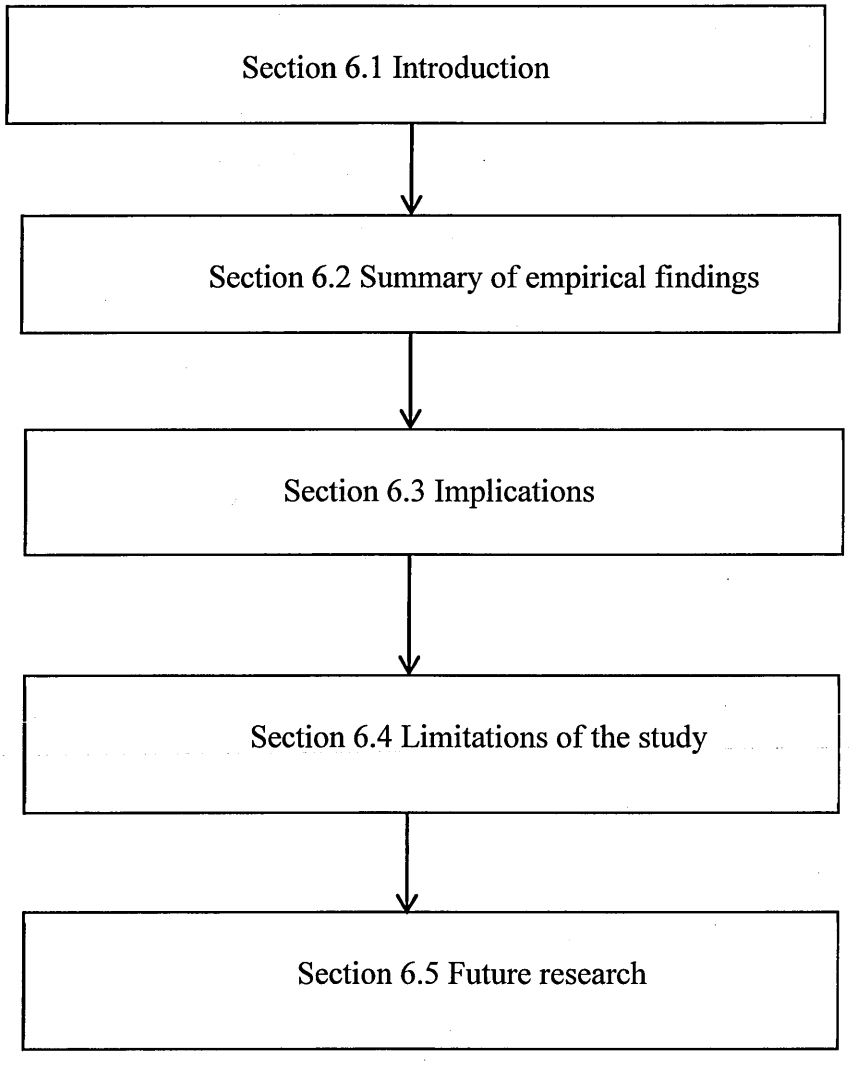
The findings show that non-institutional blockholders play a significant monitoring role in the German corporate governance system. In the UK, institutional blockholders have a positive impact on the operating performance of firms, while non-institutional blockholders have a positive impact on the market valuation of UK firms. Interestingly, institutional blockholders' ownership has a negative impact on the market valuation of firms in both countries. The negative impact of institutional shareholders' ownership on the market valuation of firms is consistent with the findings reported by Gugler et al. (2008) in their comparative study on the impact of blockholders' ownership in the relationship-based system and market-based corporate governance system.

There are similarities across these two countries in terms of the implications of firm-specific characteristics (control variables). In other words, some firm-specific characteristics have a similar impact on the performance of firms in both countries. Firm size has a negative impact on the operating performance (ROA) of firms in Germany, which suggests the higher operating and monitoring costs of larger firms. Similarly, firm size has a positive impact on the market valuation of firms in both countries, which suggests that larger firms get higher market

valuations in both countries. Contrary to expectations, firm-specific risk (beta) has a negative impact on the operating performance of firms in the UK and Germany. This finding is consistent with the findings reported by Bromiley (1991), which suggest that increasing a firm's risk exposure may not necessarily enhance the operating performance. On the other hand, firm-specific risk has a significantly positive impact on the market valuation (Tobin's Q) of firms in both countries and this finding is consistent with the findings reported by Beiner et al. (2006). The findings also show that foreign-listed firms have better operating performance and they get higher market valuation (the relationship between foreign listing and the market valuation of UK firms is statistically not significant). These results are consistent with prior research (e.g., Aggarwal et al., 2010), which shows that cross-listed firms are subject to additional regulatory requirements in the foreign countries and they are likely to adopt stronger corporate governance mechanisms. The findings also show that investment in R&D expenditure has a significantly positive impact on the operating performance and the market valuation of firms in the UK and Germany. This finding is consistent with the findings reported in prior corporate governance research (Short and Keasey, 1999; Aggarwal et al., 2010; Ammann et al., 2011). This implies that investment in R&D is a significant determinant of firm performance in the UK and Germany.

The next chapter summarises the findings reported in chapters 4 and 5. The chapter also discusses the implications of these findings and provides direction for future research.

Chapter 6. Conclusions



6.1 Introduction

This thesis has had two main objectives. The first has been to examine the quality of corporate governance disclosure in two different corporate governance systems – the UK and Germany. The second has been to analyse the relationship between internal corporate governance mechanisms and firm performance. These two questions were examined using a sample of 120 firms from the UK and Germany for the period 2007–2011. The first question was addressed by carrying out a quantitative content analysis for 600 corporate governance reports from the UK and Germany and the quality of reported explanations for non-compliance were analysed. To answer the second question, an econometric analysis was conducted by employing a generalised method of moments estimation technique. Chapter 3 provided justification for choosing these two methods and the empirical results are reported in Chapters 4 and 5.

The UK and Germany were chosen because they exhibit significant differences in terms of legal systems, ownership structures, board structures and capital markets, and there are timing differences in the formation, development and implementation of formal corporate governance codes.

The remainder of the chapter is organised as follows. Section 6.2 summarises the main findings of this study; Section 6.3 discusses the implications of this research; Section 6.4 discusses the limitations of the study; and Section 6.5 suggests avenues for future research.

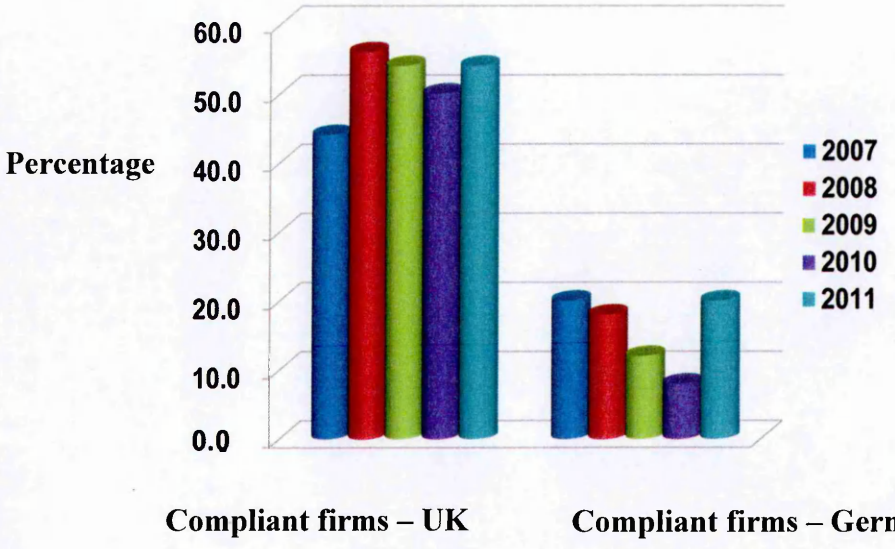
6.2 Summary of empirical findings

6.2.1 Findings related to the content analysis of corporate governance reports

Chapter 4 aimed to answer the first research question – how do the types, quality and pattern of explanations for non-compliance with the corporate governance codes vary across the UK and Germany? Using an agency theory perspective, Chapter 2 explained how corporate governance disclosure could be beneficial for firms as well as shareholders. Recent policy initiatives by the Financial Reporting Council in the UK and the European Union Company Law and Corporate Governance Action Plan (2012) also emphasised the improvement of corporate governance disclosure, particularly the quality of reported explanations for non-compliance with the corporate governance codes.

For a sample of 120 firms over the period 2007–2011, the results suggest that the average compliance rate in the UK is 50.3 per cent, which is relatively higher than a compliance rate of 16.7 per cent in Germany (refer to Figure 6.1). The timing differences in the development and implementation of formal corporate governance codes across the UK and Germany could be a reason for such significant differences in the overall compliance behaviour of firms across the UK and Germany. For instance, the first UK code of corporate governance was introduced in 1992, while the German corporate governance code came into force in 2002. Second, the majority of the sample UK firms are cross-listed in foreign stock markets and the governance literature shows that cross-listed firms are subject to additional regulations and therefore they are more likely to adopt strong corporate governance mechanisms.

Figure 6.1 Level of compliance with *The UK Corporate Governance Code* and *The German Corporate Governance Code*



Source: Developed from Table 4.2.

For non-compliant firms, the reported explanations for non-compliance were analysed into ten categories. In addition to the existing eight categories, two new categories emerged after analysing the corporate governance reports. These categories include: (a) partial non-compliance – when a firm is non-compliant over a specific period of time during the reported period or it fails to implement all aspects of a *Code* provision; and (b) assurance of future compliance – where a firm intends to implement a *Code's* provision in the following year or in the near future. Table 6.1 and Table 6.2 summarise the different categories of explanations reported for non-compliance with *The German Corporate Governance Code* and *The UK Corporate Governance Code*. Overall, the results show that the individual explanations reported by non-compliant firms are largely uninformative and the content of such explanations mostly remained similar over the time and across the firms. The results suggest that, irrespective of the corporate governance systems in different locations, non-compliant firms do exploit the

'explain' option and flexibility of the 'comply or explain' principle. The findings show that a total number of 777 explanations for non-compliance have been reported by the German firms, compared with 241 explanations provided by the sample UK firms. Table 6.1 shows that the 'no explanation for non-compliance' category has substantially decreased from 31.2 per cent in 2007 to 3.9 per cent in 2011. A number of German firms has constantly raised concerns about the controversial provisions in *The German Corporate Governance Code* or the ineffectiveness of the *Code* provisions for them. Compared with Germany, no company in the UK has commented on any *Code* provision being in conflict with other laws or about the ineffectiveness of the *Code* provision. In fact, these implementation and compatibility issues arise only when the *Code* itself or any of its provisions are new to the firm. However, as 23 years have passed since the *Cadbury Report* (1992) and the Financial Reporting Council has constantly engaged investors as well as companies in the consultation process when developing or amending the *Code,* therefore with the passage of time no such conflicting provisions now exist in the UK *Code.*

Summary of empirical results from the content analysis

Table 6.1 Percentage of different categories of explanations for a sample of 60 German companies over the period 2007–2011

Categories of explanations	2007	2008	2009	2010	2011	5 years' average (2007–2011)
	%	%	%	%	%	%
1. No explanations for non-compliance	31.2	29.3	23.1	7.8	3.9	19.9
2. Generic or standard explanations	20.0	23.2	24.4	26.0	34.1	25.1
3. Assurance of future compliance	8.8	6.1	16.3	16.2	11.6	11.7
4. Firm-specific explanations regarding company size, board size or company structure, company's foreign listings/operations, issues with *Code* implementation	34.2	33.5	27	20.7	35.8	30.24
5. *Code* provision conflicts with laws	4.7	7.3	9.4	10.4	12.4	8.6
Total number of reported explanations for non-compliance	**170**	**164**	**160**	**154**	**129**	**777**

Table 6.2 Percentage of different categories of explanations for a sample of 60 UK companies over the period 2007–2011

Categories of explanations	2007	2008	2009	2010	2011	5 years' average (2007–2011)
	%	%	%	%	%	%
1. No explanations for non-compliance	14.8	15.2	18.8	14.3	25.0	17.6
2. Generic or standard explanations	44.4	43.5	31.3	24.5	15.9	31.9
3. Assurance of future compliance	1.9	4.3	2.1	6.1	9.1	4.7
4. Firm-specific explanations regarding company size, board size or company structure, company's foreign listings/operations, issues with *Code* implementation	37.1	37	33.4	20.4	36.4	32.86
5. *Code* provision conflicts with laws	0.0	0.0	0.0	0.0	0.0	0.0
Total number of reported explanations for non-compliance	**54**	**46**	**48**	**49**	**44**	**241**

6.2.2 Findings related to the relationship between internal corporate governance mechanisms and firm performance

Chapter 2 discussed how multiple theories (agency theory, stewardship theory, resource dependence theory and stakeholder theory) inform the empirical literature on the relationship between internal corporate governance mechanisms and firm performance. Tables 6.3 and 6.4 summarise the empirical results for the accounting-based and market-based measures of firm performance (ROA and Tobin's Q). These findings are also reported in Chapter 5.

The 'comply or explain' index is positively associated with ROA for German firms. On the other hand, the 'comply or explain' index has a positive impact on the market valuation (Tobin's Q) of UK firms. However, I did not find any significant relationship between the 'comply or explain' index and the operating performance of UK firms. Also, I did not find any significant relationship between the 'comply or explain' index and the market valuation (Tobin's Q) of German firms. The findings provide some evidence to support the argument that compliance with the corporate governance code has a positive impact on the operating performance of German firms and, in the context of the UK, compliant firms get higher market valuation in the capital market.

Consistent with the assumptions of agency theory, board size has a significantly negative impact on the operating performance of firms in the UK and Germany. The negative impact of board size supports the notion that larger boards are costly in terms of their communication and co-ordination problems, as suggested by Lipton and Lorsch (1992) and Jensen (1993). For the UK sample, board size has a significantly negative impact on the market

valuation of firms, however, in the context of Germany, board size has no significant impact on the market valuation of German firms.

Consistent with Dahya and McConnell (2007) and in line with the assumptions of agency theory, board structure (the percentage of non-executive directors) has a positive impact on the operating performance of UK firms. However, I did not find any significant impact of board structure on the operating performance of German firms and this finding is consistent with the findings reported by Bermig and Frick (2010). Interestingly, board structure has a significantly negative impact on the market valuation of UK firms, and this finding is consistent with the findings reported by Weir and Laing (2000). This finding supports the assumptions of stewardship theory, and it suggests that the UK firms with a higher percentage of non-executive directors may not necessarily get higher market valuation. In the context of Germany, board structure has a positive impact on the market valuation of firms. This finding supports the assumptions of agency theory and resource dependency theory, and it suggests that German firms with a higher percentage of non-executive directors obtain higher market valuation in the capital market.

Table 6.3 Summary of empirical results for the accounting-based measure of firm performance (ROA)

Independent variables	UK			Germany		
	Expected sign	Results	Statistical significance of results	Expected sign	Results	Statistical significance of results
'Comply or explain' index	+	+	No	+	+	Yes
Board size	–	–	Yes	–	–	Yes
Board structure	+	+	Yes	+	+	No
Number of board meetings	+	–	Yes	+	–	No
Gearing	+	–	Yes	+	+	Yes
Institutional blockholders (%)	+	+	Yes	+	+	No
Non-institutional blockholders (%)	+	–	No	+	+	Yes

Table 6.4 Summary of empirical results for the market-based measure of firm performance (Tobin's Q)

Independent variables	UK			Germany		
	Expected sign	Results	Statistical significance of results	Expected sign	Results	Statistical significance of results
'Comply or explain' index	+	+	Yes	+	+	No
Board size	–	–	Yes	–	+	No
Board structure	+	–	Yes	+	+	Yes
Number of board meetings	+	+	Yes	+	+	Yes
Gearing	+	+	Yes	+	+	Yes

Institutional blockholders (%)	+	–	Yes	+	–	Yes
Non-institutional blockholders (%)	+	+	Yes	+	+	Yes

Table 5.9 and Table 5.10 summarise the main results for the German and UK non-financial firms. The results are summarised for both the accounting- and market-based measure of firm performance. These tables indicate the expected sign for each hypothesis developed in the methodology chapter and whether the hypothesis is accepted or rejected. The last columns in Table 5.9 and Table 5.10 show whether the results are significant or not.

The number of board meetings has a significantly negative impact on the operating performance of UK firms and this finding is consistent with the findings reported by Fich and Shivdasani (2006). For German firms, I did not find any significant impact of the number of board meetings on the operating performance of firms. Similarly, the number of board meetings has a significantly positive impact on the market valuation (Tobin's Q) of firms in the UK and Germany. This finding is consistent with the findings reported by Brick and Chidambaran (2010). The positive impact of board meetings on Tobin's Q indicates that board activities are value-relevant for investors in both corporate governance systems.

The impact of gearing is significantly positive on the operating performance (ROA) and the market valuation (Tobin's Q) for German firms. This indicates that debt financing serves as an important corporate governance mechanism in the German corporate governance system. In the UK, gearing has a significantly negative impact on the operating performance of firms and this finding is consistent with the findings reported by Weir and Laing (2000) and Weir et al. (2002). On the other hand, gearing has a significantly positive impact on the market valuation of UK firms. The positive relationship is consistent with the findings reported by Dahya et al. (2002) and McKnight and Weir (2009) for the UK firms. This suggests that the capital market in the UK considers debt financing as an important monitoring mechanism.

The findings show that non-institutional blockholders play a significant monitoring role in the German corporate governance system, as evidenced by the positive impact of

non-institutional blockholders' ownership on the operating performance and the market-based measure of firm performance (ROA and Tobin's Q). Interestingly, institutional blockholders' ownership has a negative impact on the market valuation (Tobin's Q) of firms in the UK and Germany, and this finding is consistent with the findings reported by Gugler et al. (2008). In the UK, institutional blockholders' ownership has a positive impact on the operating performance of UK firms.

The results for control variables show that firm size has a significantly negative impact on the operating performance of German firms. For the market-based measure of firm performance (Tobin's Q), firm size has a significantly positive impact on the market valuation of firms in the UK and Germany, which suggests that larger firms get higher market valuation in both countries. Firm-specific risk has a negative impact on the operating performance of firms in the UK and Germany. On the other hand, firm-specific risk has a significantly positive impact on the market valuation (Tobin's Q) of firms in both countries. Foreign listing has a positive impact on the market-based measure of firm performance in the UK and Germany, which suggests that foreign-listed firms obtain higher market valuation in both countries. R&D expenditure has a significantly positive impact on the operating performance as well as on the market valuation of firms in the UK and Germany, and this finding suggests that R&D is a significant determinant of firm performance in both countries.

6.3 Implications

The econometric results reported for the governance-performance relationship are largely similar across the UK and Germany. However, the results reported under the

accounting-based measure of performance (ROA) are significantly different from those reported under the market-based measure of firm performance (Tobin's Q). This shows the sensitivity of different measures of firm performance. There is no universal measure of firm performance. In fact, ROA and Tobin's Q are the most common and widely used measures of a firm's operating and financial performance. However, the governance literature has also used other measures, such as: (a) return on equity; (b) net profit margin; (c) total shareholders' return; (d) price/earnings ratio; (e) price/sales ratio.

The results for the governance-performance relationship are explained by different theories of corporate governance, such as agency theory, resource dependence theory, stewardship theory and stakeholder theory. This indicates that the governance-performance relationship cannot be examined through the lens of a single and universal corporate governance theory, and researchers need to adopt multiple theoretical perspectives to investigate the underlying complex relationship between corporate governance and firm performance.

The negative impact of institutional blockholders' ownership on the market valuation of firms in the UK and Germany suggests that regulators in both countries need to develop comprehensive corporate governance regulations for the institutional investors.[66]

This study has used two methods to explore the governance-performance relationship and the quality of reported explanations for non-compliance with the corporate governance codes. The concept of methodological pluralism has recently been embraced by

[66] The UK has recently issued *The UK Stewardship Code* for institutional investors, while Germany has already issued *The German Capital Investment Code.*

the governance researchers. In fact, examining the governance-performance relationship using multiple theories and multiple methods may take us closer to developing a more comprehensive theory of corporate governance.

The findings of this thesis have potential implications for policy makers. For instance, if compliance is a listing requirement, then there should be a mechanism to monitor the explanations for non-compliance and regulators should not leave the burden of assessment in the hands of only one player (investors) in the capital market. In other words, the Financial Reporting Council needs to engage all stakeholders (investors, companies and auditors) in developing any regulations to address the quality of corporate governance disclosure. Although, the level of compliance in the UK has improved in the past 23 years, enforcing compliance could be a partial solution to improve the quality of explanations reported for non-compliance. However, any proposed regulations should not be mandatory and should be based on the fundamental principles of the principles-based system. Adopting an alternative or a short-cut approach will have long-term implications, as Shrives and Brennan (2014, p. 99) argue:

> 'To encourage a move towards compliance simply because it solves the problem of badly crafted explanations is likely to result in unforeseen consequences and may permanently damage the system of which the UK is seemingly proud and which the rest of the world is keen to emulate'.

The findings about the quality of corporate governance disclosure also have implications for listed companies. For example, owing to the external pressures from shareholders as well as other interest groups, some UK companies have now established a separate sub-committee of the board (known as a disclosure committee) to scrutinise the

information reported in their annual reports. Although, this is not a formal requirement in *The UK Corporate Governance Code* (Financial Reporting Council, 2014), however as discussed before, companies may adopt better corporate governance practices beyond those recommended by a corporate governance code.

In the case of Germany, the *Code* issuer, the Commission of the German Corporate Governance Code, needs to review those provisions which are in conflict with other laws and regulations in the country. If these conflicting provisions remain in the *German Corporate Governance Code*, it would provide a valid excuse for non-compliant firms to refer to such provisions while explaining and justifying their position.

Corporate governance reporting needs to be very simple and informative in terms of the language, volume and structure of the compliance statements, so that investors can easily make their judgment on the basis of such available information.

Finally, comparative corporate governance research has implications for regulators in both corporate governance systems, and, using a cherry-picking approach, regulators should adopt best corporate governance practices from other (alternative) corporate governance systems. For example, German companies publish a separate 'declaration of conformity' or a 'compliance statement' in addition to its publication in their annual reports. The UK can benefit from this unique approach of dual reporting and adopting such practices could partly mitigate the accessibility issues relating to the location of the compliance statements of the UK listed companies.

6.4 Limitations of the study

This study has used a generalised method of moments (GMM) model which is more robust in terms of controlling for different kinds of endogeneity issues and thus provides unbiased estimates. Discussing the limitations of difference and system GMM Roodman (2009, p. 87) argues:

> 'they are complicated and so can easily generate invalid estimates. Implementing them with a Stata command stuffs them into a black box, creating the risk that users, not understanding the estimators' purpose, design, and limitations, will unwittingly misuse it'.

Second, the thesis only focuses on the reported non-compliance and the explanations for non-compliance. In reality, the actual level of compliance may be different.

Third, the sample includes only 120 companies from the UK and Germany for the period 2007–2011, which is still large enough for comparison with prior comparative studies on the UK and Germany (Franks and Mayer, 1997; Jungmann, 2006). In the context of Germany, the annual reports of small-sized German companies (SDAX) are in German, and this was one of the reasons to include only those German companies for which the governance data was available in financial databases and the annual reports were also in English.

Fourth, this study excludes financial firms, as financial firms are highly regulated and their governance arrangements are significantly different from non-financial firms. The selection of non-financial firms is consistent with the leading governance-performance

studies (Weir et al., 2002; Dahya and McConnell, 2007). This implies that the findings of the study could not be generalised in the context of the financial institutions.

6.5 Future research

Like many other studies, this research has some limitations, which suggest avenues for future research. Future comparative studies may extend the time period beyond the 2007 financial crisis to compare the disclosure behaviour of firms and the governance performance relationship with a pre-crisis or post-crisis period.

Second, future studies may use an interview-based qualitative approach to examine the determinants of corporate governance disclosure. This may include interviewing the compliance officers of serial non-compliant firms, particularly those firms that have reported either 'no explanations' or 'boiler-plate explanations'. Alternatively a survey-based approach could also examine this phenomenon at a relatively larger scale across different countries.

Third, future studies could also investigate the relationship between the 'comply or explain' index (or DataStream corporate governance score) and analysts' recommendations (buy, hold, sell). This would provide a better understanding about the interaction between various internal and external corporate governance mechanisms.

Fourth, this study used a quantitative content analysis which was suitable for a relatively large sample to examine the quality of corporate governance disclosure. Future studies may use a qualitative content analysis (discourse analysis) for a small sample to understand the disclosure behaviour of firms from the underlying themes in the written text.

Finally, governance research has so far been restricted to only public listed companies. Another interesting and emerging area for future research could be exploring governance issues in small and medium sized private companies, which could potentially 'go public' in the near future. A good example is the UK alternative investment market (AIM), which started in 1995 with only 10 companies and having a market capitalisation of £82.2 million. As at August 2013, the FTSE AIM market includes 1,086 companies with a market value of £67 billion (London Stock Exchange, 2013).

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Appendices

Appendix A: Holdings of UK quoted shares by sector of beneficial owner

	%			£ billion		
	1998	2010	2012	1998	2010	2012
Rest of the world	30.7	43.4	53.2	460.9	760.9	935.1
Insurance companies	21.6	8.8	6.2	325.5	153.8	109.2
Pension funds	21.7	5.6	4.7	325.8	98.7	82.7
Individuals	16.7	10.2	10.7	250.8	179.0	187.2
Unit trusts	2.0	8.8	9.6	30.1	153.8	167.9
Investment trusts	1.3	2.1	1.7	19.2	37.5	30.7
Other financial institutions	2.7	12.3	6.6	40.4	215.0	115.3
Charities, church, etc	1.4	0.8	0.6	20.4	14.9	10.7
Private non-financial companies	1.4	2.3	2.3	20.9	40.1	39.8
Public sector	0.1	3.1	2.5	1.4	54.4	44.1
Banks	0.6	2.5	1.9	8.4	44.3	33.6
Total	100.0	100.0	100.0	1503.7	1752.3	1756.3

Source: Adapted from Office for National Statistics (2013).

Appendix B: List of German companies

Name	Industrial name	Primary index	Foreign listing
BASF	Chemicals	Frankfurt Stock Exchange	Yes
BAYER	Chemicals	Frankfurt Stock Exchange	Yes
FRESENIUS MED CARE	Health Care & Pharmaceutical	Frankfurt Stock Exchange	No
FRESENIUS	Health Care & Pharmaceutical	Frankfurt Stock Exchange	No
K + S	Chemicals	Frankfurt Stock Exchange	No
LINDE	Chemicals	Frankfurt Stock Exchange	Yes
MERCK KGAA	Health Care & Pharmaceutical	Frankfurt Stock Exchange	No
FUCHS PETROLUB PREF.	Chemicals	Frankfurt Stock Exchange	No
GERRESHEIMER	Health Care & Pharmaceutical	Frankfurt Stock Exchange	Yes
LANXESS	Chemicals	Frankfurt Stock Exchange	Yes
RHOEN-KLINIKUM	Health Care & Pharmaceutical	Frankfurt Stock Exchange	Yes
STADA ARZNEIMITTEL	Health Care & Pharmaceutical	Frankfurt Stock Exchange	No
SYMRISE	Chemicals	Frankfurt Stock Exchange	No
WACKER CHEMIE	Chemicals	Frankfurt Stock Exchange	No
ADIDAS	Personal & Household Goods	Frankfurt Stock Exchange	Yes
BMW	Automobiles & Parts	Frankfurt Stock Exchange	Yes
BEIERSDORF	Personal & Household Goods	Frankfurt Stock Exchange	No
CONTINENTAL	Automobiles & Parts	Frankfurt Stock Exchange	No
DAIMLER	Automobiles & Parts	Frankfurt Stock Exchange	Yes
HEIDELBERGCEMENT	Construction & Materials	Frankfurt Stock Exchange	No
INFINEON TECHNOLOGIES	Technology	Frankfurt Stock Exchange	Yes
SAP	Technology	Frankfurt Stock Exchange	Yes
VOLKSWAGEN PREF.	Automobiles & Parts	Frankfurt Stock Exchange	Yes
GERRY WEBER INTL.	Personal & Household Goods	Frankfurt Stock Exchange	Yes
BOSS (HUGO)	Personal & Household Goods	Frankfurt Stock Exchange	No
PUMA	Personal & Household Goods	Frankfurt Stock Exchange	No
RHEINMETALL	Automobiles & Parts	Frankfurt Stock Exchange	No
AURUBIS	Basic Resources	Frankfurt Stock Exchange	No
KLOCKNER & CO	Basic Resources	Frankfurt Stock Exchange	No
SALZGITTER	Basic Resources	Frankfurt Stock Exchange	No
DEUTSCHE POST	Industrial Goods & Services	Frankfurt Stock Exchange	Yes
SIEMENS	Industrial Goods & Services	Frankfurt Stock Exchange	Yes
THYSSENKRUPP	Industrial Goods & Services	Frankfurt Stock Exchange	Yes
BILFINGER BERGER	Industrial Goods & Services	Frankfurt Stock Exchange	No
DUERR	Industrial Goods & Services	Frankfurt Stock Exchange	No

Appendix B continued

FRAPORT	Industrial Goods & Services	Frankfurt Stock Exchange	No
GEA GROUP	Industrial Goods & Services	Frankfurt Stock Exchange	No
GILDEMEISTER	Industrial Goods & Services	Frankfurt Stock Exchange	No
HAMB.HAFEN UD.LOGISTIK	Industrial Goods & Services	Frankfurt Stock Exchange	Yes
KRONES	Industrial Goods & Services	Frankfurt Stock Exchange	No
KUKA	Industrial Goods & Services	Frankfurt Stock Exchange	No
LEONI	Industrial Goods & Services	Frankfurt Stock Exchange	Yes
MAN	Industrial Goods & Services	Frankfurt Stock Exchange	No
MTU AERO ENGINES HLDGT	Industrial Goods & Services	Frankfurt Stock Exchange	No
RATIONAL	Industrial Goods & Services	Frankfurt Stock Exchange	No
SGL CARBON	Industrial Goods & Services	Frankfurt Stock Exchange	No
VOSSLOH	Industrial Goods & Services	Frankfurt Stock Exchange	No
DEUTSCHE TELEKOM	Telecommunications	Frankfurt Stock Exchange	Yes
SUEDZUCKER	Food & Beverage	Frankfurt Stock Exchange	No
DEUTSCHE LUFTHANSA	Travel & Leisure	Frankfurt Stock Exchange	Yes
HENKEL PREF	Personal & Household Goods	Frankfurt Stock Exchange	No
AXEL SPRINGER	Media	Frankfurt Stock Exchange	No
CELESIO	Retail	Frankfurt Stock Exchange	No
DEUTSCHE EUROSHOP	Real Estate	Frankfurt Stock Exchange	No
DOUGLAS HOLDING	Retail	Frankfurt Stock Exchange	No
LEONI	Industrial Goods & Services	Frankfurt Stock Exchange	Yes
METRO	Retail	Frankfurt Stock Exchange	Yes
PROSIEBENSAT 1 MEDIA	Media	Frankfurt Stock Exchange	No
TUI	Travel & Leisure	Frankfurt Stock Exchange	No
BRENNTAG	Chemicals	Frankfurt Stock Exchange	Yes

Appendix C: List of UK companies

Name	Industry Name	Primary index	Foreign listing
ASTRAZENECA	Health Care & Pharmaceutical	London Stock Exchange	Yes
BTG	Health Care & Pharmaceutical	London Stock Exchange	Yes
CARCLO	Chemicals	London Stock Exchange	Yes
CRODA INTERNATIONAL	Chemicals	London Stock Exchange	Yes
DECHRA PHARMACEUTICALS	Health Care & Pharmaceutical	London Stock Exchange	Yes
ELEMENTIS	Chemicals	London Stock Exchange	Yes
GENUS	Health Care & Pharmaceutical	London Stock Exchange	Yes
GLAXOSMITHKLINE	Health Care & Pharmaceutical	London Stock Exchange	Yes
HIKMA PHARMACEUTICALS	Health Care & Pharmaceutical	London Stock Exchange	Yes
JOHNSON MATTHEY	Chemicals	London Stock Exchange	Yes
OPTOS	Health Care & Pharmaceutical	London Stock Exchange	No
OXFORD BIOMEDICA	Health Care & Pharmaceutical	London Stock Exchange	Yes
SHIRE	Health Care & Pharmaceutical	London Stock Exchange	Yes
SMITH & NEPHEW	Health Care & Pharmaceutical	London Stock Exchange	Yes
SYNERGY HEALTH	Health Care & Pharmaceutical	London Stock Exchange	No
VECTURA GROUP	Health Care & Pharmaceutical	London Stock Exchange	Yes
VICTREX	Chemicals	London Stock Exchange	No
SYNTHOMER	Chemicals	London Stock Exchange	Yes
AGGREKO	Industrial Goods & Services	London Stock Exchange	Yes
ANGLO AMERICAN	Basic Resources	London Stock Exchange	Yes
ANTOFAGASTA	Basic Resources	London Stock Exchange	Yes
ARM HOLDINGS	Technology	London Stock Exchange	Yes
ASSOCIATED BRIT.FOODS	Food & Beverage	London Stock Exchange	Yes
BABCOCK INTL.	Industrial Goods & Services	London Stock Exchange	Yes
BAE SYSTEMS	Industrial Goods & Services	London Stock Exchange	Yes
BHP BILLITON	Basic Resources	London Stock Exchange	Yes
BRITISH AMERICAN TOBACCO	Personal & Household Goods	London Stock Exchange	Yes
BT GROUP	Telecommunications	London Stock Exchange	Yes

Appendix C continued

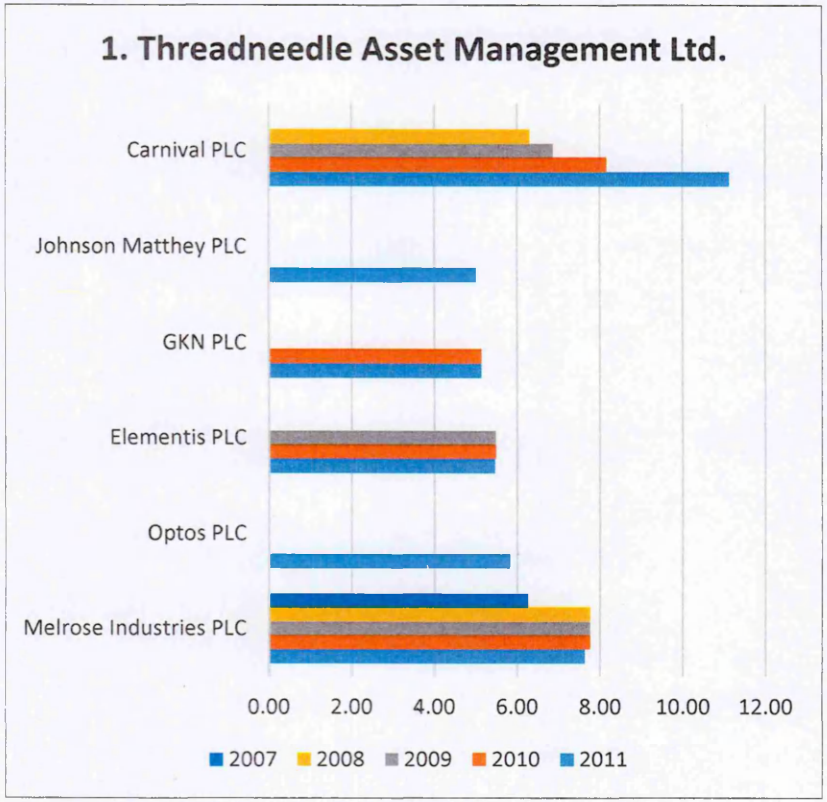
BUNZL	Industrial Goods & Services	London Stock Exchange	Yes
BURBERRY GROUP	Personal & Household Goods	London Stock Exchange	Yes
CAPITA	Industrial Goods & Services	London Stock Exchange	Yes
CRH	Construction & Materials	London Stock Exchange	Yes
DIAGEO	Food & Beverage	London Stock Exchange	Yes
EURASIAN NATRES.CORP	Basic Resources	London Stock Exchange	Yes
EXPERIAN	Industrial Goods & Services	London Stock Exchange	Yes
FRESNILLO	Basic Resources	London Stock Exchange	Yes
G4S	Industrial Goods & Services	London Stock Exchange	Yes
GKN	Automobiles & Parts	London Stock Exchange	Yes
IMI	Industrial Goods & Services	London Stock Exchange	Yes
IMPERIAL TOBACCO GP.	Personal & Household Goods	London Stock Exchange	Yes
INTERTEK GROUP	Industrial Goods & Services	London Stock Exchange	Yes
KAZAKHMYS	Basic Resources	London Stock Exchange	Yes
MEGGITT	Industrial Goods & Services	London Stock Exchange	Yes
MELROSE INDUSTRIES	Industrial Goods & Services	London Stock Exchange	Yes
RANDGOLD RESOURCES	Basic Resources	London Stock Exchange	Yes
RECKITT BENCKISER GROUP	Personal & Household Goods	London Stock Exchange	Yes
REXAM	Industrial Goods & Services	London Stock Exchange	Yes
RIO TINTO	Basic Resources	London Stock Exchange	Yes
ROLLS-ROYCE HOLDINGS	Industrial Goods & Services	London Stock Exchange	Yes
SABMILLER	Food & Beverage	London Stock Exchange	Yes
AMEC	Oil & Gas	London Stock Exchange	Yes
BG GROUP	Oil & Gas	London Stock Exchange	Yes
BP	Oil & Gas	London Stock Exchange	Yes
BRITISH LAND	Real Estate	London Stock Exchange	Yes
CARNIVAL	Travel & Leisure	London Stock Exchange	Yes
COMPASS GROUP	Travel & Leisure	London Stock Exchange	Yes
EVRAZ	Basic Resources	London Stock Exchange	Yes
HAMMERSON	Real Estate	London Stock Exchange	Yes
ITV	Media	London Stock Exchange	Yes
KINGFISHER	Retail	London Stock Exchange	Yes

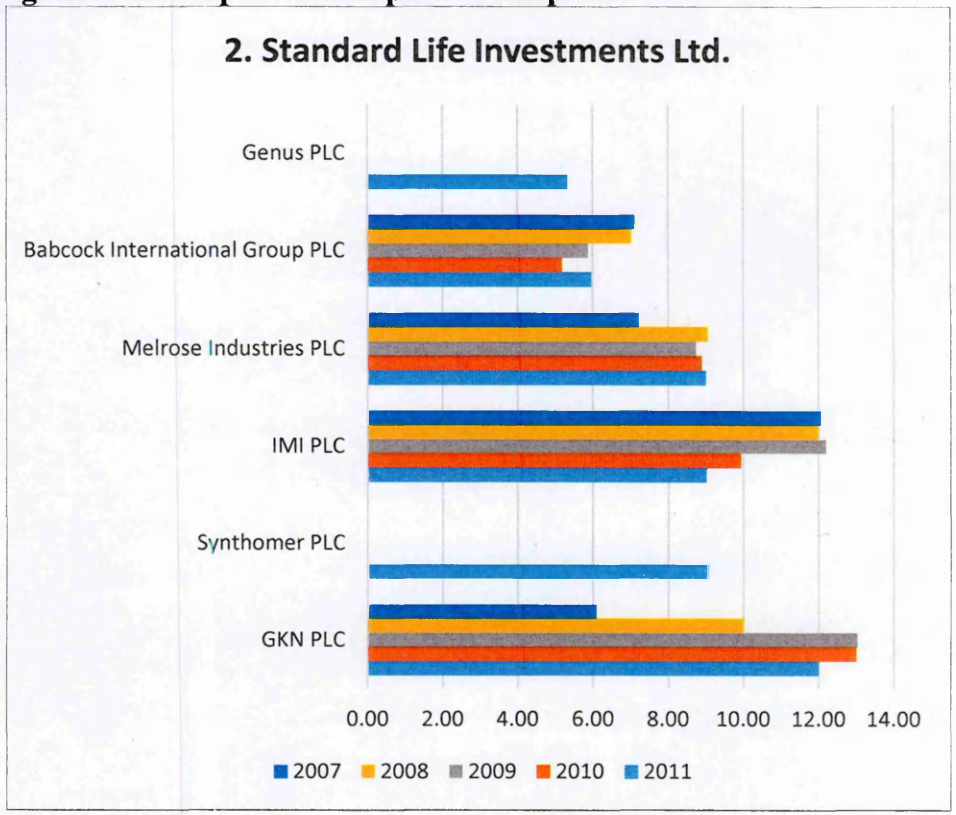
Appendix D Percentage of shares owned by German corporations in the sample German companies

Company	Investor Name (corporations)	Percentage of shareholdings				
		2011	2010	2009	2008	2007
Beiersdorf	Maxingvest AG	50.46	50.46	50.46	50.46	50.46
Brenntag	Brachem Acquisition S.C.A.	36.02	49.61	-	-	-
Clesio	Franz Haniel & Cie. GmbH	54.6	54.6	54.6	55.81	52.9
Continental	B.Metzler seel. Sohn & Co. Holding AG	5.19	16.48	19.50	3.99	-
Fresenius Medical Care	Fresenius SE & Co KGaA	30.30	35.80	36.37	35.94	36.55
Fraport	Deutsche Lufthansa AG	9.92	9.93	9.94	9.95	9.96
Fraport	Land Hessen	31.48	31.50	31.57	31.59	31.62
Fraport	Stadtwerke Frankfurt am Main Holding GMBH	20.11	20.12	20.16	20.17	20.19
Heidelbergcement	Spohn Cement GmbH	25.11	25.11	24.42	79.06	78.57
Man	Volkswagen AG	55.90	29.90	29.90	29.90	29.90
Aurubis	Salzgitter AG	25.00	25.26	25.26	20.00	-
Prosiebensat 1 Media	Lavena Holding 1 GmbH	18.00	25.30	25.30	25.30	13.30
Puma	Kering SA	75.12	70.70	69.36	65.27	62.09
SGL Carbon	Voith Group	9.14	5.11	5.12	-	-
SGL Carbon	Volkswagen AG	8.18	-	-	-	-
TUI	Geveran Trading Company, Ltd.	14.97	14.99	14.99	15.01	5.12
Volkswagen	Porsche Automobil Holding SE	50.73	50.74	53.11	42.60	31.00

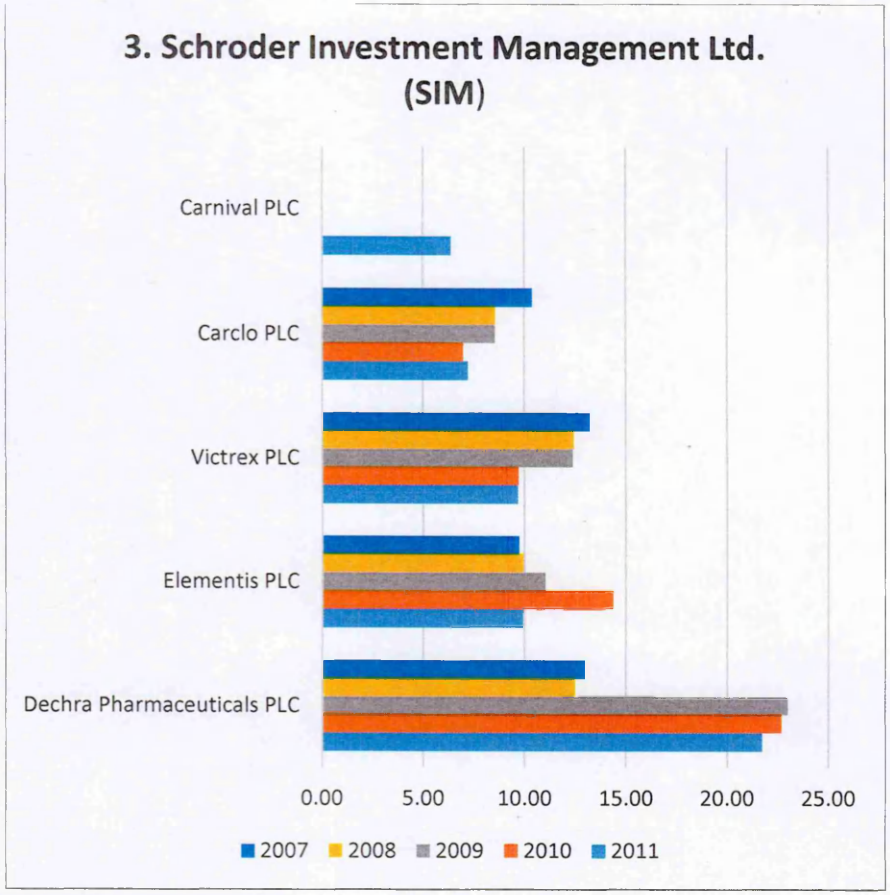
Source: Compiled from Thomson One database. Under the German law, German companies are also required to publicly disclose the identity of their major shareholders in their annual reports.

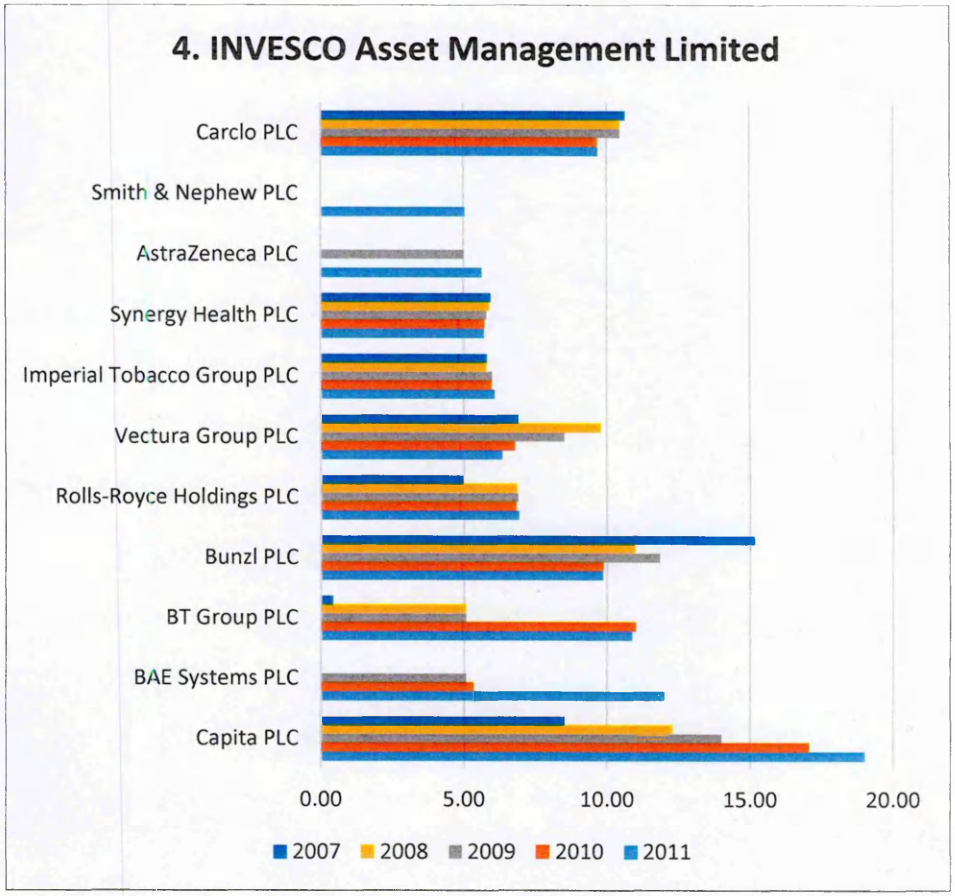
Appendix E Major institutional shareholders and their percentage of ownership in the sample UK companies



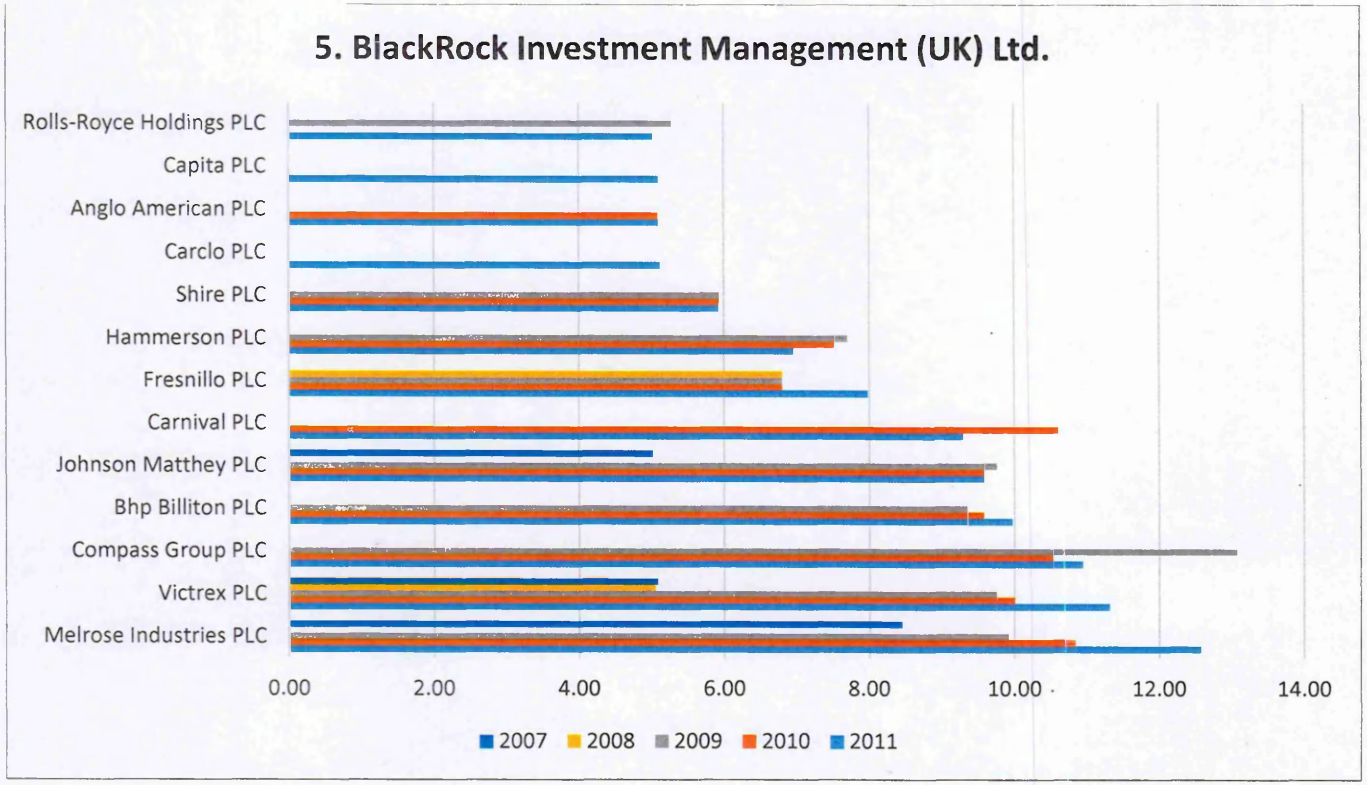


Appendix E continued.





Appendix E continued.



Source: Compiled from Thomson One database. Only top five institutional blockholders' ownership data are reported for 2007–2011. The horizontal sides show the percentage of shares owned by the UK institutional shareholders. The vertical sides show the number of different companies, where one institutional blockholder owns at least five per cent or more than five per cent shares.